*With the Medical Officer of Health's Compliments.*

# ANNUAL REPORT

ON THE

# Health of the County Borough of Cardiff,

FOR THE YEAR 1897,

BY

EDWARD WALFORD, M.D., D.P.H., Camb.,

MEDICAL OFFICER OF HEALTH.

Printed by Order of the Sanitary Authority.

CARDIFF:
PRINTED BY WESTERN MAIL, LIMITED, TUDOR PRINTING WORKS.

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COUNTY BOROUGH OF CARDIFF.

# Health and Port Sanitary Committee.

*Mayor:*

ALDERMAN JOSEPH RAMSDALE, J.P.

*Chairman:*

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# Cardiff Urban Sanitary Authority.

## MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

*Medical Officer of Health.*
EDWARD WALFORD, M.D., D.P.H.

*Chief Inspector of Nuisances.*
D. VAUGHAN.

*District Inspectors.*
T. W. WARREN (Certificate, Sanitary Institute).
A. P. PRESTON ,, ,, ,,
S. EVANS ,, ,, ,,
F. GLOVER ,, ,, ,,
P. DAVID ,, ,, ,,

*Inspector for Infectious Diseases.*
GEO. THOMAS (Certificate, Sanitary Institute).

*Inspector of Lodging Houses.*
J. W. HOLDEN (Certificate, Sanitary Institute).

*Inspector of Dairies, Cow-sheds and Milkshops, and under Sale of Food and Drugs' Act.*
J. BURKE (Certificate, Sanitary Institute).

*Inspector under Shop Hours' Act and Inspector of Workshops.*
W. FISHER.

*Disinfector.*
A. GREEN.

*Senior Clerk.*
S. R. HENDERSON.

*General Clerk.*
W. H. DAVIES.

*Junior Clerk.*
W. H. ALDERMAN.

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**CARDIFF SANATORIUM.**

B. W. BROAD, M.B., C.M., Edin., *Resident Medical Officer.*
Miss HAY, *Matron.*

# Cardiff Urban Sanitary Authority.

TOWN HALL, CARDIFF,

*May*, 1898.

TO THE CHAIRMAN AND MEMBERS OF THE CARDIFF URBAN SANITARY AUTHORITY.

Gentlemen,

I have the honour of submitting to you my Report for the year 1897, made in accordance with the Local Government Board's Order of March, 1891, which specifies the information to be contained in the Annual Reports of Medical Officers of Health.

A Memorandum upon this subject recently issued by the Board's Medical Officer directs that "the Report should be chiefly concerned with the conditions affecting health in the district "and with the means of improving those conditions. That it should consider these subjects with "reference to the past and future as well as to the particular year. That the account of the general "sanitary state of the district should, while marking the point that has been reached in the sanitary "condition and administration of the district, indicate directions for further consideration and "action; and that the sanitary history of the year under review should include a record alike of "the proceedings of the Medical Officer of Health himself and of the proceedings taken under his "direction."

The Municipal Borough of Cardiff originally comprised the parishes of St. John the Baptist and St. Mary the Virgin. Under the provisions of the Cardiff Improvement Act of 1875, the boundary of the Borough was extended so as to include the parish of Roath and that part of the parish of Llandaff known as Canton.

By an Order of the Privy Council, dated 21st October, 1890, the Borough was divided into ten Wards. The following tables taken from the Census Reports of 1891 give the distribution of the population in the Municipal Wards and civil parishes :—

**TABLE I.**—Distribution of the population in the Municipal Wards of the Borough (census 1891) :—

MUNICIPAL BOROUGH OF CARDIFF.

| Borough and Wards. | Houses. | | | Population (Census 1891). | | |
|---|---|---|---|---|---|---|
| | Inhabited. | Uninhabited. | Building. | Persons. | Males. | Females. |
| Ward—Adamsdown ... | 2,132 | 83 | ... | 16,234 | 9,398 | 6,836 |
| ,, Canton ... | 2,354 | 96 | 6 | 13,166 | 6,500 | 6,666 |
| ,, Cathays ... | 2,408 | 25 | 12 | 14,523 | 7,404 | 7,119 |
| ,, Central ... | 2,008 | 247 | 9 | 12,348 | 6,105 | 6,243 |
| ,, Grangetown ... | 1,809 | 45 | 97 | 11,734 | 5,975 | 5,759 |
| ,, Park ... | 2,587 | 110 | 109 | 14,289 | 6,754 | 7,535 |
| ,, Riverside ... | 2,373 | 77 | 20 | 14,897 | 7,359 | 7,538 |
| ,, Roath ... | 1,949 | 162 | 31 | 12,200 | 5,886 | 6,314 |
| ,, South ... | 1,554 | 156 | 13 | 10,719 | 5,824 | 4,895 |
| ,, Splott ... | 1,302 | 85 | 35 | 8,805 | 4,540 | 4,265 |
| Total ... | 20,476 | 1,086 | 332 | 128,915 | 65,745 | 63,170 |

According to the Census of April, 1891, the Population and the Number of Houses in each Parish were as follows :—

## TABLE II.

| Borough and Constituent Parishes. | Houses. | | | Population, 1891. | | | Population, 1881. |
|---|---|---|---|---|---|---|---|
| | Inhabited. | Uninhabited. | Building. | Males. | Females. | Persons. | |
| Canton ... ... | 5,484 | 180 | 85 | 16,425 | 16,380 | 32,805 | 14,797 |
| Roath ... ... | 6,552 | 367 | 175 | 19,884 | 19,773 | 39,657 | 23,096 |
| St. John ... ... | 4,386 | 218 | 29 | 13,060 | 14,098 | 27,158 | 16,614 |
| St. Mary ... ... | 4,054 | 321 | 43 | 16,376 | 12,919 | 29,295 | 28,254 |
| County Borough of Cardiff... ... | 20,476 | 1,086 | 332 | 65,745 | 63,170 | 128,915 | 82,761 |

## VITAL STATISTICS, 1897.

POPULATION.—The population of the Borough of Cardiff in the middle of the year 1897, as estimated by the Registrar General on the basis of the census enumeration, was 170,063, and the rates given in this report have been calculated on this basis. It has been pointed out in former reports that the method adopted by the Registrar General of estimating the population of any given area is based on the assumption that the population has gone on increasing since the last census at exactly the same *rate* that it did between that and the census of 1881. The birth and death-rates calculated on these estimates of population are therefore only approximately correct, and, moreover, any error which may exist is increased in proportion to the length of time which has elapsed since the last census.

According to the census of 1891 an increase of 46,154, or 55 per cent., has taken place since the preceding census. This is an exceptionally large increase, and it would at first sight seem doubtful whether the same rate of increase has been maintained since 1891. The remarkably low death-rates recorded in the past year and in those immediately preceding it might also lead to the inference that the population has been over-estimated since the last census, and that the death-rates have been consequently understated. The method usually adopted for checking the Registrar General's estimate is to take as a basis the number of inhabited houses in the district in the middle of the year, and to multiply this by the average number of inmates in each house at the last census. With a view therefore of ascertaining, as far as possible, the extent of the error in the estimate, I caused to be made a special inspection of the district in June, 1897, in order to ascertain the number of inhabited houses in each Ward in the Borough. Table IV. gives the result of this local census. According to this enumeration the number of inhabited houses in the whole Borough amounted to 26,962 at that particular period.

The average number of inmates per house was, according to the census of 1891, equal to 6·29. Multiplying this by 26,962 the population would be 169,590. But to this must be added 2,523, the floating population according to the last census, making a total of 172,113, or 2,050 *above* the Registrar General's estimate. Estimating the population in this way it would appear to be in excess of, rather than below, the official figure, and if correct, the recorded death-rate, and the other rates as given in this report, are slightly higher than the true rates.

Taking into consideration the extent of the building operations during the past few years it would seem probable that the high rate of increase in the population has really been maintained, although until the next census this cannot be definitely shown. The rapid increase in the population which has taken place of late years has, of course, had the effect of increasing the aggregation, or what is termed the density, of the population, as no extension of the area of the Borough has

occurred since the parishes of Roath and Canton were included in 1875. The density of population is usually measured by the number of persons to the acre, and is given in this way in the following table for the years 1888-97 inclusive :—

## TABLE III.

### COUNTY BOROUGH OF CARDIFF.

Density of Population.

| Year. | Persons per Acre. |
|---|---|
| 1888 ... ... ... | 14·7 |
| 1889 ... ... ... | 15·3 |
| 1890 ... ... ... | 15·9 |
| 1891 ... ... ... | 17·7 |
| 1892 ... ... ... | 18·5 |
| 1893 ... ... ... | 23·5 |
| 1894 ... ... ... | 24·6 |
| 1895 ... ... ... | 25·7 |
| 1896 ... ... ... | 26·8 |
| 1897 ... ... ... | 28·1 |

In small areas there is a difficulty in determining whether an open space within it ought to form part of its true area. In estimating the density of population of each Ward, I have adopted the usual plan of including Parks and Open Spaces, the one exception being the Adamsdown Ward, in the area of which the 108 acres of the docks are not included, the floating population of 2,523 being also excluded from the estimated population of that Ward.

## TABLE IV.

### COUNTY BOROUGH OF CARDIFF.

Population of Wards June, 1897.

| Wards. | Area in Acres. | Houses Inhabited. | Houses Vacant. | Houses Building. | Total Houses. | Population 1897. | Persons per Acre. |
|---|---|---|---|---|---|---|---|
| Central ... | 473 | 2,173 | 331 | 63 | 2,567 | 13,668 | 28·8 |
| South ... | 519 | 1,702 | 188 | 75 | 1,965 | 10,706 | 20·6 |
| Cathays ... | 369 | 2,654 | 88 | 46 | 2,788 | 16,694 | 45·2 |
| Park ... | 533 | 4,041 | 104 | 54 | 4,199 | 25,418 | 47·6 |
| *Adamsdown | 1,570 | 2,178 | 58 | 1 | 2,237 | 13,699 | 8·7 |
| Riverside | 313 | 2,978 | 87 | 27 | 3,092 | 18,732 | 59·8 |
| Canton ... | 449 | 3,115 | 120 | 82 | 3,317 | 19,593 | 43·6 |
| Roath ... | 766 | 2,398 | 64 | 35 | 2,497 | 15,083 | 19·7 |
| Grang'town | 1,905 | 3,121 | 115 | 108 | 3,344 | 19,631 | 10·3 |
| Splott ... | 1,454 | 2,602 | 71 | 83 | 2,756 | 16,366 | 11·2 |
| Total ... | 8,351 | 26,962 | 1,226 | 574 | 28,762 | 169,590 | 28·1 |
| | | | | Floating Population.. | | 2,523 | |
| | | | | Total Population . | | 172,113 | |

*In addition to the above the water area of the Docks is 108 acres, and included in this total of 8,459 acres are 2,600 acres of water and foreshore.

In comparing the vital statistics of different localities, it is necessary therefore to take into consideration the density of population, as this must have an important relation to the health and mortality of the district. In his earlier reports to the Registrar-General Dr. Farr expressed the opinion that a definite relation subsisted between density of population and mortality. He thought that the mortality increased with the density of the population, but not in direct proportion to the

density, but as the 12th root. More recent observations have shown that although density and mortality generally increase or decrease together, the relation between them is too complex to admit of being expressed by such a formula, and that although in large Urban Districts with a high density of population the mortality is greater than in Rural Districts with a low density, the rate of mortality in these Urban Districts has of late years enormously decreased whilst their mean density has increased. Improved sanitation has neutralised to some extent the injurious consequences of the increasing aggregation of population which is continually going on in large towns. The following figures show the relative mortality in Urban and Rural Districts in England and Wales during the ten years ending 1890:—

| | Death Rate per 1,000. | Deaths under 1 Year to 1,000 Births. |
|---|---|---|
| England and Wales ... ... ... | 19·0 | 142 |
| Urban England (28 towns) ... ... | 21·5 | 162 |
| Rural England ... ... ... ... | 17·6 | 122 |

This aggregation of population must of necessity have a special influence upon the prevalence and mortality of those diseases which spread by means of the direct contact of the sick with the healthy, such as small-pox, measles, scarlet fever, whooping cough, and diphtheria. Hence the higher mortality from zymotic or infectious diseases in densely populated Urban Districts.

Besides these direct effects of the crowding together of the population, which operate chiefly by giving increased facilities for the spread of infection by personal intercourse, the indirect effects are of extreme importance.

Where crowding exists there also will be found poverty and dirt, pollution of the air and soil with injurious organic impurities and the various dangerous and unwholesome trades, all of which tend to increase the mortality. The following figures give the mortality from certain infectious diseases in England and Wales and in the Urban and Rural Districts respectively:—

| | Death-rate per Million, 1881-90. | | | | | | |
|---|---|---|---|---|---|---|---|
| | Small Pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever * | Diarrhœa. |
| England and Wales ... ... | 45 | 440 | 334 | 163 | 450 | 235 | 659 |
| Urban England (28 towns) ... ... | 88 | 626 | 403 | 190 | 612 | 262 | 890 |
| Rural England ... ... ... | 24 | 329 | 286 | 159 | 366 | 216 | 520 |

*Including Typhus, Typhoid, and continued Fever.

The following tables give the population and the number of births and deaths since 1845, also the estimated population in the Borough of Cardiff in the middle of 1897, at age periods in each sex:—

**TABLE V.**—Births, Deaths, and Natural Increase of Population for Fifty-three years 1845—1897.

| Year. | Population. | Births. | Deaths. | Excess of Deaths over Births. | Excess of Births over Deaths. |
|---|---|---|---|---|---|
| 1845 | 13,385 | 320 | 324 | 4 | ... |
| 1846 | 14,212 | 381 | 321 | ... | 60 |
| 1847 | 15,039 | 331 | 484 | 153 | ... |
| 1848 | 15,866 | 428 | 579 | 151 | ... |
| 1849 | 16,693 | 466 | 864 | 395 | ... |
| 1850 | 17,520 | 504 | 485 | ... | 19 |
| 1851 | 18,354 | 575 | 585 | ... | 50 |
| 1852 | 19,724 | 696 | 620 | .. | 76 |
| 1853 | 21,094 | 865 | 644 | ... | 221 |
| 1854 | 22,464 | 950 | 925 | ... | 25 |
| 1855 | 23,834 | 1,079 | 641 | ... | 438 |
| 1856 | 25,204 | 1,227 | 772 | ... | 455 |
| 1857 | 26,574 | 1,367 | 883 | ... | 484 |
| 1858 | 27,944 | 1,356 | 753 | ... | 603 |
| 1859 | 29,314 | 1,336 | 826 | ... | 510 |
| 1860 | 30,684 | 1,346 | 662 | ... | 584 |
| 1861 | 32,054 | 1,223 | 837 | ... | 386 |
| 1862 | 32,804 | 1,267 | 695 | ... | 373 |
| 1863 | 33,552 | 1,302 | 862 | ... | 440 |
| 1864 | 34,300 | 1,369 | 932 | ... | 467 |
| 1865 | 35,048 | 1,382 | 867 | ... | 515 |
| 1866 | 35,796 | 1,331 | 882 | ... | 449 |
| 1867 | 36,544 | 1,397 | 873 | ... | 524 |
| 1868 | 37,292 | 1,387 | 843 | ... | 544 |
| 1869 | 38,640 | 1,414 | 1,005 | ... | 409 |
| 1870 | 38,788 | 1,406 | 903 | ... | 503 |
| 1871 | 39,356 | 1,391 | 891 | ... | 500 |
| 1872 | 40,284 | 1,358 | 916 | ... | 442 |
| 1873 | 41,032 | 1,430 | 995 | ... | 435 |
| 1874 | 41,780 | 1,550 | 885 | ... | 665 |
| *1875 | 69,850 | 2,716 | 1,547 | ... | 1,169 |
| 1876 | 72,438 | 2,707 | 1,455 | ... | 1,252 |
| 1877 | 75,026 | 2,772 | 1,475 | ... | 1,297 |
| 1878 | 77,614 | 2,795 | 1,468 | ... | 1,327 |
| 1879 | 80,202 | 2,969 | 1,428 | ... | 1,541 |
| 1880 | 82,790 | 2,893 | 1,634 | ... | 1,295 |
| 1881 | 85,378 | 3,145 | 1,556 | ... | 1,598 |
| 1882 | 88,603 | 3,399 | 1,724 | ... | 1,675 |
| 1883 | 91,204 | 3,526 | 1,807 | ... | 1,719 |
| 1884 | 93,468 | 3,920 | 2,250 | ... | 1,670 |
| 1885 | 97,034 | 4,164 | 2,487 | ... | 1,683 |
| 1886 | 100,736 | 4,270 | 2,269 | ... | 2,001 |
| 1887 | 104,580 | 4,277 | 2,280 | ... | 1,997 |
| 1888 | 108,570 | 4,409 | 2,212 | ... | 2,197 |
| 1889 | 112,712 | 4,361 | 2,190 | ... | 2,172 |
| 1890 | 117,012 | 4,600 | 2,469 | ... | 2,131 |
| 1891 | 130,283 | 4,739 | 2,873 | ... | 1,866 |
| 1892 | 136,181 | 4,776 | 2,560 | ... | 2,216 |
| 1893 | 142,435 | 5,110 | 2,794 | ... | 2,316 |
| 1894 | 148,890 | 5,100 | 2,415 | ... | 2,685 |
| 1895 | 155,637 | 5,321 | 2,840 | ... | 2,481 |
| 1896 | 162,690 | 5,591 | 2,795 | ... | 2,796 |
| 1897 | 170,063 | 5,279 | 2,534 | ... | 2,745 |
| | | | | ... | |

*Canton and Roath taken into the Borough.

## TABLE VI.

BOROUGH OF CARDIFF.

Population at different Ages, estimated to the middle of 1897.

| Age. | Males. | Females. | Persons. |
|---|---|---|---|
| 0 | 11,493 | 11,287 | 22,780 |
| 5 | 9,957 | 10,081 | 20,038 |
| 10 | 8,847 | 8,980 | 17,827 |
| 15 | 8,302 | 8,227 | 16,529 |
| 20 | 8,788 | 8,783 | 17,571 |
| 25 | 8,472 | 7,915 | 16,387 |
| 30 | 7,355 | 6,397 | 13,752 |
| 35 | 6,152 | 5,244 | 11,396 |
| 40 | 4,920 | 4,217 | 9,137 |
| 45 | 3,972 | 3,406 | 7,378 |
| 50 | 2,932 | 2,794 | 5,726 |
| 55 | 2,008 | 1,896 | 3,904 |
| 60 | 1,598 | 1,757 | 3,255 |
| 65 | 937 | 1,027 | 1,964 |
| 70 | 570 | 735 | 1,305 |
| 75 | 271 | 359 | 630 |
| 80 | 156 | 228 | 384 |
| All ages | 86,730 | 83,333 | 170,063 |

## TABLE VII.

MARRIAGES.—The total number of Marriages registered during the year 1897 was 1,687, corresponding to a rate of 19·8 persons married per 1,000 persons living.

A return of the number of Marriages in the Borough of Cardiff, together with the rate of persons married per 1,000 of the population, is given below :—

| Year. | No. of Marriages. | Rate per 1,000 Persons living. |
|---|---|---|
| 1886 | 1,244 | 24·6 |
| 1887 | 1,322 | 25·2 |
| 1888 | 1,259 | 23·1 |
| 1889 | 1,431 | 25·3 |
| 1890 | 1,440 | 24·6 |
| 1891 | 1,651 | 17·6 |
| 1892 | 1,526 | 22·4 |
| 1893 | 1,447 | 20·3 |
| 1894 | 1,480 | 19·8 |
| 1895 | 1,271 | 16·3 |
| 1896 | 1,721 | 21·1 |
| 1897 | 1,687 | 19·8 |

BIRTHS.—During the year 1897 the Births registered in the Borough were 5,279 ; of these 2,636 were males and 2,643 females.

The number of births corresponded to an annual birth-rate of 31·0 per 1,000, compared with 34·3 the rate in 1896 and with 29·7 the rate in England and Wales. The birth-rate throughout the country has fallen continuously since its maximum (36·3) in 1876 to a minimum of 29·6 in 1894.

In Cardiff the birth-rate, although still comparatively high, has also declined during the past ten years.

TABLE VIII. gives the number of legitimate and illegitimate births, male and female, and the number of deaths amongst children under one year of age in each Ward :—

**TABLE VIII.**

| Wards. | Legitimate. | | Illegitimate. | | Total. | | Total. | Deaths under One Year. |
|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | | |
| Central ... ... | 126 | 136 | 2 | 4 | 128 | 140 | 268 | 54 |
| South ... ... ... | 119 | 137 | 3 | 1 | 122 | 138 | 260 | 50 |
| Cathays... ... ... | 277 | 260 | 5 | 5 | 282 | 265 | 547 | 73 |
| Park ... ... ... | 354 | 344 | 3 | 6 | 357 | 350 | 707 | 93 |
| Adamsdown ... ... | 237 | 211 | 3 | 2 | 240 | 213 | 453 | 73 |
| Riverside ... ... | 252 | 243 | 5 | 5 | 257 | 248 | 505 | 72 |
| Canton ... ... ... | 313 | 302 | 4 | 5 | 317 | 307 | 624 | 103 |
| Roath ... ... ... | 204 | 239 | 4 | 5 | 208 | 244 | 452 | 64 |
| Grangetown ... ... | 397 | 409 | 6 | 8 | 403 | 417 | 820 | 105 |
| Splott ... ... ... | 286 | 288 | 2 | 1 | 288 | 289 | 577 | 83 |
| Union Workhouse ... | 6 | 9 | 28 | 23 | 34 | 32 | 66 | 26 |
| Total ... ... | 2,571 | 2,578 | 65 | 65 | 2,636 | 2,643 | 5,279 | 796 |

**TABLE IX.**—Annual birth-rate in Cardiff compared with that in the large towns during the ten years ending 1897.

| 33 Large Towns. | Annual Birth-rate per 1.000 living. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 |
| London ... ... | 30·7 | 30·3 | 29·1 | 31·8 | 30·9 | 31·0 | 30·1 | 30·5 | 30·2 | 30·0 |
| West Ham ... ... | ... | ... | ... | ... | 37·0 | 35·6 | 34·0 | 34·3 | 32·6 | 32·2 |
| Croydon ... ... | ... | ... | ... | ... | 26·5 | 26·2 | 25·0 | 25·3 | 25·1 | 25·0 |
| Brighton ... ... | 23·3 | 24·4 | 23·2 | 26·3 | 25·5 | 25·4 | 25·8 | 25·6 | 24·7 | 24·7 |
| Portsmouth ... ... | 35·8 | 35·1 | 33·6 | 30·1 | 28·0 | 28·2 | 27·6 | 27·9 | 27·6 | 26·9 |
| Plymouth ... ... | 31·7 | 31·9 | 31·2 | 29·8 | 29·1 | 29·9 | 28·8 | 28·7 | 28·8 | 28·5 |
| Bristol ... ... | 29·3 | 29·2 | 28·1 | 30·4 | 29·6 | 30·4 | 28·2 | 28·9 | 27·6 | 27·8 |
| Swansea ... ... | ... | ... | ... | ... | 35·2 | 35·1 | 32·3 | 33·4 | 30·5 | 29·4 |
| Wolverhampton ... | 32·9 | 32·4 | 32·3 | 34·2 | 33·7 | 34·5 | 34·1 | 35·4 | 34·4 | 35·1 |
| Birmingham... ... | 30·7 | 30·9 | 30·1 | 34·2 | 33·3 | 32·7 | 31·7 | 32·4 | 32·6 | 33·3 |
| Norwich ... ... | 34·6 | 33·8 | 33·0 | 31·9 | 30·5 | 30·9 | 29·8 | 31·8 | 30·8 | 30·5 |
| Leicester ... ... | 32·7 | 31·7 | 30·5 | 33·9 | 32·2 | 32·6 | 31·5 | 30·8 | 30.8 | 30·6 |
| Nottingham ... ... | 29·9 | 28·0 | 24·9 | 29·9 | 29·4 | 30·2 | 28·6 | 29·7 | 28·9 | 28·9 |
| Derby ... .. | 29·4 | 28·5 | 26·9 | 30·6 | 31·1 | 32·2 | 29·3 | 29·1 | 28·0 | 27·1 |
| Birkenhead ... ... | 30·7 | 31·2 | 31·4 | 33·0 | 33·4 | 33·1 | 30·6 | 30·7 | 31·7 | 31·6 |
| Liverpool ... ... | 29·7 | 29·2 | 28·8 | 34·6 | 34·7 | 36·0 | 35·4 | 36·9 | 34·9 | 35·3 |
| Bolton ... ... | 32·7 | 32·8 | 31·4 | 34·1 | 32·7 | 33·1 | 31·5 | 32·9 | 31·3 | 32·5 |
| Manchester ... ... | 35·3 | 35·3 | 34·9 | 34·1 | 33·7 | 33·6 | 32·0 | 33·7 | 33·0 | 33·2 |
| Salford ... ... | 31·6 | 29·9 | 28·8 | 36·4 | 35·9 | 34·7 | 34·3 | 35·9 | 34·9 | 35·1 |
| Oldham ... ... | 30·1 | 28·4 | 27·0 | 31·1 | 29·1 | 28·6 | 27·2 | 27·5 | 27·2 | 26·1 |
| Burnley ... ... | ... | ... | ... | ... | 34·2 | 33·9 | 32·2 | 32·1 | 31·0 | 29·8 |
| Blackburn ... ... | 34·1 | 34·3 | 32·5 | 33·9 | 31·9 | 30·9 | 28·8 | 30·6 | 27·4 | 27·7 |
| Preston ... ... | 37·5 | 38·1 | 36·1 | 36·0 | 34·3 | 35·1 | 32·1 | 33·4 | 32·6 | 31·9 |
| Huddersfield ... | 24·6 | 24·5 | 22·6 | 24·4 | 23·0 | 23·8 | 20·2 | 21·7 | 20·5 | 23·4 |
| Halifax ... ... | 28·5 | 28·0 | 27·9 | 26·2 | 25·9 | 24·6 | 23·1 | 23·4 | 24·3 | 22·5 |
| Bradford ... ... | 27·4 | 26·7 | 25·6 | 28·7 | 27·2 | 27·7 | 26·7 | 26·1 | 25·5 | 24·6 |
| Leeds ... ... | 32·6 | 32·8 | 33·4 | 34·1 | 33·5 | 32·4 | 32·2 | 31·6 | 30·7 | 31·6 |
| Sheffield ... ... | 30·7 | 33·2 | 32·4 | 36·6 | 35·3 | 34·8 | 33·4 | 34·9 | 34·0 | 34·4 |
| Hull ... ... | 31·1 | 32·6 | 31·3 | 34·6 | 35·0 | 34·2 | 32·4 | 34·2 | 31·9 | 33·3 |
| Sunderland ... ... | 34·7 | 36·0 | 35·5 | 37·8 | 37·1 | 35·6 | 35·1 | 35·1 | 34·2 | 34·6 |
| Gateshead ... . | ... | ... | ... | ... | 35·3 | 36·5 | 34·2 | 34·6 | 35·8 | 35·8 |
| Newcastle-on-Tyne ... | 37·9 | 38·2 | 39·8 | 35·8 | 34·3 | 33·7 | 31·0 | 31·2 | 31·1 | 31·3 |
| Cardiff ... ... | 40·6 | 38·6 | 39·3 | 36·5 | 35·3 | 36·0 | 34·4 | 34·1 | 34·3 | 31·1 |
| Large Towns ... | 31·2 | 31·0 | 30·0 | 32·6 | 31·9 | 31·9 | 30·7 | 31·3 | 30·7 | 30·7 |

DEATHS.—During the year 2,534 deaths were registered in the Borough, of these 1,335 were males and 1,199 were females.

The deaths were equal to 14·9 per 1,000 of the population, as compared with 19·1 the average rate in the ten preceding years. Notwithstanding an increase in the population, according to the official estimate, of over 7,000, the actual number of deaths in 1897 was 261 less than in the immediately preceding year, The "natural increase" of the population, or the excess of births over deaths, amounted to 2,745.

The death-rate was the lowest on record since the first publication of mortality statistics in 1845, and was 1·3 below the very low death-rate of 1894.

In the Annual Summary of the Registrar-General for the year 1897 the rates of mortality in the 33 large towns of England and Wales are given. Amongst these, Croydon has, as usual, the lowest general death-rate, Cardiff coming next on the list. The average death-rate in the large towns was 19·1 per 1,000, ranging from 13·1 in Croydon, 14·9 in Cardiff, and 15·1 in Brighton, to 22·0 in Bolton, 22.5 in Wolverhampton, 23·1 in Manchester, and 24·4 in Liverpool.

The death-rate in England and Wales in 1897 was 17·4 per 1,000, and was lower than in any previous year, excepting 1894 and 1896.

The number of deaths registered in Cardiff during the first quarter of the year at all ages and from all causes was 691, corresponding to an annual death-rate of 16·3 per 1,000 persons living, as compared with 20·1 the average rate in the first quarter of the five preceding years, and with 19·2 the rate in the 33 large towns, the death-rates in these towns ranging from 13·6 in Croydon, 14·9 in West Ham and 15·3 in Brighton, to 23·5 in Manchester, and 23·9 in Liverpool. The deaths from the chief zymotic diseases during the first quarter of the year in Cardiff were 74, and corresponded to an annual rate of 1·77 per 1,000, as compared with 2·10 the average rate in the first quarters of the five preceding years, and with 1·69 the average rate in the 33 large towns. Measles produced the highest fatality amongst the zymotic diseases during this quarter, the death-rate being 0·64 per 1,000, as compared with 0·33 the average rate in the 33 large towns.

During the second quarter the number of deaths registered in the Borough was 606, corresponding to an annual rate of 14·2 per 1,000 persons living, as compared with 16·6 the average rate in the second quarter of the five preceding years and with 16·9 the rate in the 33 large towns. The death-rates in these towns ranged from 11·7 in Croydon, 13·0 in Brighton, and 13·4 in Swansea to 20·2 in Preston, 21·8 in Liverpool, 22·7 in Manchester, 23·4 in Bolton, and 25·5 in Salford. Seventy-nine deaths were ascribed to the chief zymotic diseases, giving a death-rate of 1·84 per 1,000, as compared with 2·47 the average rate in the second quarters of the five preceding years, and with 1·70 the average rate in the 33 large towns. In this quarter measles again produced the highest fatality amongst the zymotic diseases, the death-rate being 0·85 per 1,000, as compared with 0·55 the average rate in the large towns.

The number of deaths registered during the third quarter of the year was 671, corresponding to an annual death-rate of 15·8 per 1,000, as compared with 17·1 the average rate in the third quarters of the five preceding years and with 21·2 the rate in the 33 large towns. The death-rates in these towns ranged from 13·2 in Halifax, 13·8 in Huddersfield, 14·4 in Croydon, 15·3 in Bristol, and 15·8 in Cardiff to 33·9 in Preston. The fatality from measles was small during this quarter, the death-rate being 0·09 per 1,000, as compared with 0·85 in the preceding quarter and with 0·64 the rate in the first quarter of the year. The most fatal amongst the zymotic diseases was diarrhœa, which caused 111 deaths, giving a death-rate of 2·61 per 1,000, or 0·13 above the average rate in the five preceding third quarters.

The death-rate from the chief zymotic diseases during the third quarter was 3·46 per 1,000, as compared with 5·73 the average rate in the 33 large towns, this rate ranging from 1·20 in Swansea to 16·43 in Preston.

In the fourth quarter of the year the number of deaths was 566, corresponding to a death-rate of 13·3 per 1,000, as compared with 17·9 the average rate in the fourth quarters of the five preceding years and with 19·0 the rate in the 33 large towns. The death-rates in these towns ranged from 12·6 in Croydon, 13·3 in Cardiff, 14·3 in Brighton, to 20·8 in Birmingham and 22·9 in Liverpool. The 71 deaths ascribed to zymotic diseases corresponded to an annual death-rate of 1·70 per 1,000, as compared to 2·34 the average rate in the large towns. Diphtheria was the most fatal amongst these diseases during the fourth quarter, causing 39 deaths, corresponding to a death-rate of 0·91 per 1,000, as compared with 0·40 the average rate in the large towns.

The following table gives a summary of the vital statistics in Cardiff during the years 1888-1897 :—

**TABLE X.**

| Years. | Births. | Birth-rate per 1,000 Inhabitants. | Deaths from all causes. | Death-rate per 1,000 Inhabitants. | Death-rate from the seven Chief Infectious Diseases per 1,000 Inhabitants. | Deaths under one year per 1,000 births registered. |
|---|---|---|---|---|---|---|
| 1888 | 4,409 | 40·6 | 2,212 | 20·3 | 2·9 | 143 |
| 1889 | 4,361 | 38·6 | 2,190 | 19·4 | 2·1 | 156 |
| 1890 | 4,600 | 39·3 | 2,469 | 21·1 | 2·4 | 165 |
| 1891 | 4,739 | 36·5 | 2,873 | 22·0 | 2·1 | 153 |
| 1892 | 4,776 | 35·0 | 2,560 | 18·7 | 2·7 | 157 |
| 1893 | 5,110 | 36·0 | 2,790 | 19·6 | 2·8 | 171 |
| 1894 | 5,100 | 34·2 | 2,415 | 16·2 | 1·7 | 137 |
| 1895 | 5,321 | 34·1 | 2,840 | 18·2 | 2·0 | 178 |
| 1896 | 5,591 | 34·3 | 2,795 | 16·8 | 2·2 | 165 |
| 1897 | 5,279 | 31·1 | 2,534 | 14·9 | 2·1 | 151 |

The table of mortality in the appendix gives the causes of death of both sexes at certain age groups. Summarising the details in this table, it will be seen that out of a total of 2,534 deaths, 1,145, or 45 per cent., were amongst children under five years of age, giving an annual death-rate of 50·2 per 1,000 persons living at that age period.

The most fatal of the zymotic diseases at those ages was diarrhœa, which caused 123 deaths, of these 103 were under one year of age. The next in order of fatality was measles, to which disease 70 deaths under five years of age were attributed, out of a total of 75 at all ages.

Diphtheria was, as regards fatality, placed next in order to measles, causing 61 deaths under five years of age out of a total of 90 at all ages. It will be seen also in the same table that out of a total of 410 deaths from the entire zymotic group, 318, or 77·5 per cent., were amongst children under five years of age. Of the deaths from whooping cough the entire number, 30, occurred amongst children under five. Of the 17 deaths from scarlet fever at all ages, 13 were under the age of five years.

In the succeeding age period, 5—10 years, diphtheria was the most fatal of the zymotic diseases, causing 22 deaths, measles causing four and scarlet fever three deaths at that age period. Amongst other diseases having a large mortality in childhood may be mentioned convulsions and pneumonia, each causing 102 deaths under five years of age. The above figures show the enormous influence which the age distribution of a population must have on the mortality of a district. Where the proportion of young children to the whole population is unusually high the number of deaths from the diseases above mentioned will be proportionately great, and the general or crude death-rate will be increased. With regard to the deaths from diarrhœa, measles, whooping-cough, convulsions, and pneumonia, it is to be feared that many of them may be attributed to maternal ignorance and carelessness.

Infantile diarrhœa and convulsions are largely due to errors in diet and insanitary conditions. Pneumonia, frequently to insufficient clothing, measles and whooping cough to carelessness with respect to infection, the prevalent notion amongst parents being that these two diseases are of trifling importance and that all children must have them; therefore little or no precaution is taken to avoid their spread. Both these diseases are less under the control of Sanitary Authorities than scarlet fever and enteric fever, in which the mortality has fallen steadily and considerably of late years.

Climate and season have an important influence on mortality. A mild winter and a cool summer will lower the mortality, the former chiefly by reducing the death-rate from diseases of the respiratory organs amongst the very young and very old, and the latter by reducing the fatality from diarrhœa diseases amongst infants. The low general death-rate which prevailed throughout the country during 1897 was probably due in part to the above cause. The charts in the appendix of this report will show the influence of the season on the mortality during the year.

The following figures show the death-rate at age periods from certain diseases per 10,000 persons living at those periods :—

| Age Periods ... ... | 0-5 | 5-10 | 10-15 | All ages. |
|---|---|---|---|---|
| Measles ... ... ... | 30·7 | 1·9 | 0·5 | 4·4 |
| Scarlet Fever ... ... | 5·7 | 1·4 | 0·5 | 1·0 |
| Diphtheria ... ... ... | 26·7 | 10·9 | 2·2 | 5·3 |
| Diarrhœa ... ... ... | 58·3 | 0·0 | 0·0 | 7·9 |

It may be useful to compare the Mortality Statistics in the Registration Sub-Districts and in the Municipal Wards in the town. The general death-rates do not vary much and are remarkably low in all the districts.

The highest death-rate 14·7 occurred in the Central Registration Sub-District, and the lowest 11·5 in the East District. In the Western District the rate was 13·2.

The mortality from the chief zymotic diseases was highest in the West Registration Sub-District where the rate was 2·34 per 1,000 as compared with 1·80 in the Central District and with 1·62 in East Cardiff.

The Infant mortality, as measured by the proportion of deaths under one year to 1,000 births registered, was highest in the Central Registration Sub-District where it reached 163 as compared with 143 in the West District and with 138 in the East District. The higher zymotic rate in the West District was due chiefly to the greater fatality from diphtheria. the death-rate from this disease reaching 0·82 per 1,000 as compared with 0·27 in the Central District and with 0·17 in East Cardiff. Whooping cough was also proportionately more fatal in the West District, though not to the same extent, the death rate from this disease being 0·28 per 1,000 in the West District, 0·20 in the Central, and 0·12 in East Cardiff. The death-rate from measles was high throughout the town, being 0·58 per 1,000 in East Cardiff, 0·39 in West Cardiff, and 0·36 in Central Cardiff. From this it will be seen that the lowest rate of mortality occurred in the East Registration Sub-District where the general death-rate, the zymotic death-rate, and the rate of infant mortality were lower than in the other Registration Divisions.

The general death-rate in the different Municipal Wards ranged from 9·99 in the Park Ward, 11·8 in the Cathays Ward, and 11·9 in the Riverside Ward to 14·5 in the Grangetown Ward, 15·5 in the Adamsdown Ward, and 17·3 in the South Ward. The death-rate from the chief zymotic diseases varied from 1·19 in the Roath Ward, 1·46 in the Central, and 1·49 in the Park Ward to 2·19 in the Splott Ward, 2·34 in the Grangetown, and 2·90 in the Canton Ward. These rates were chiefly influenced by the greater fatility of diphtheria in the Grangetown and Canton Wards, and by the greater prevalence of fatal measles in the Splott Ward. No deaths from typhoid fever occurred in the Canton, Grangetown, Central, Adamsdown, or Roath Wards, the few deaths that did occur being pretty evenly distributed amongst the other Wards. The death-rate from Diarrhœa varied slightly in the different Wards, ranging from 0·26 in the Roath Ward to 1·01 in the Adamsdown Ward, 1·03 in the Splott Ward, and 1·07 in the Canton Ward.

It is evident that there are no very profound differences in local conditions producing marked variations in the death-rates in different parts of the town. The general death-rate has been low throughout the whole District.

Typhoid fever, the disease most usually connected with insanitary conditions, has during during the past few years produced a very low mortality, and has prevailed to a comparatively slight extent.

It is not easy to account for the greater incidence of diphtheria in certain localities. It is probably due to some accidental conditions connected with the age distribution of the population, and perhaps to a somewhat greater degree of crowding in these districts, whereby the opportunities for the spread of personal infection have been increased.

**TABLE XI.** Showing age distribution of population, number of deaths, and death-rates at age periods.

| Age periods. | Estimated population 1897. | Number of Deaths. | Annual Death-rate per 1,000. |
|---|---|---|---|
| 0— 5 | 22,780 | 1,145 | 50· 2 |
| 5—10 | 20,038 | 86 | 4·29 |
| 10—15 | 17,827 | 49 | 2·74 |
| 15—20 | 16,529 | 76 | 4·59 |
| 20—25 | 17,571 | 72 | 4·09 |
| 25—30 | 16,387 | 89 | 5·43 |
| 30—35 | 13,752 | 87 | 6·32 |
| 35—40 | 11,396 | 110 | 9·65 |
| 40—45 | 9,137 | 104 | 11· 3 |
| 45—50 | 7,378 | 101 | 13· 6 |
| 50—55 | 5,726 | 88 | 15· 3 |
| 55—60 | 3,904 | 95 | 24· 3 |
| 60—65 | 3,355 | 113 | 33· 6 |
| 65—70 | 1,964 | 102 | 51· 9 |
| 70—75 | 1,305 | 88 | 67· 4 |
| 75—80 | 630 | 69 | 109· 5 |
| 80 upwards. | 384 | 60 | 179· 6 |

**TABLE XII.**—33 Towns. Birth and Death-rates, and Analysis of Mortality, in the 52 Weeks of 1897. (Tables XII and XIII compiled from the Registrar General's Returns).

In this Table, 0·00 indicates that the deaths were too few to give a rate of 0·05; when no deaths occurred, — is inserted.

| CITIES AND BOROUGHS. | Annual Rate per 1,000 Persons Living. | | | | | | | | | | | | | | Deaths under 1 Year to 1000 Births | Annual Death Rate per 1000 living. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Births in 52 Weeks ending 1st Jan., 1898. | Total Deaths. 52 or 53 Weeks ending | | | | Deaths from | | | | | | | | | | Aged 1 to 60 Years. | Aged 60 years and upwards |
| | | 29th Dec., 1894 | 28th Dec., 1895. | 2nd Jan., 1897. | 1st Jan., 1898. | Principal Zymotic Diseases. | Small-pox. | Measles. | Scarlet Fever. | Diptheria. | Whooping-cough. | Fever. | Diarrhœa. | Violence. | | | |
| 33 Towns .. .. | 30·7 | 18·1 | 20·7 | 18·9 | 19·1 | 2·87 | 0 00 | 0·55 | 0·18 | 0·31 | 0·41 | 0·18 | 1·24 | 0·71 | 177 | 10·3 | 70·3 |
| London* .. .. .. | 30·0 | 17·8 | 19·9 | 18·6 | 18·2 | 2·58 | 0·00 | 0·43 | 0·18 | 0·51 | 0·41 | 0·13 | 0·92 | 0·78 | 159 | 10·0 | 67·1 |
| West Ham .. .. .. | 32·2 | 16·2 | 17·9 | 16·1 | 15·7 | 2·61 | — | 0·51 | 0·11 | 0·37 | 0·36 | 0·18 | 1·08 | 0·55 | 172 | 8·1 | 59·2 |
| Croydon .. .. .. | 25·0 | 13·2 | 14·5 | 14·2 | 13·1 | 1·43 | — | 0·14 | 0·10 | 0·07 | 0·26 | 0·07 | 0·79 | 0·46 | 135 | 6·1 | 58·5 |
| Brighton .. .. .. | 24·7 | 16·4 | 18·9 | 16·1 | 15·1 | 1·64 | — | 0·14 | 0·10 | 0·10 | 0·21 | 0·18 | 0·91 | 0·44 | 144 | 7·4 | 57·2 |
| Portsmouth .. .. .. | 26·9 | 15·2 | 17·8 | 16·6 | 16·2 | 2·53 | — | 0·19 | 0·06 | 0·15 | 0·35 | 0·24 | 1·54 | 0·55 | 168 | 7·9 | 62·8 |
| Plymouth .. .. .. | 28·5 | 18·3 | 20·1 | 19·6 | 19·0 | 2·17 | — | 0·50 | 0·05 | 0·13 | 0·54 | 0·08 | 0·87 | 0·42 | 185 | 9·2 | 61·2 |
| Bristol .. .. .. | 27·8 | 17·3 | 18·1 | 16·9 | 17·2 | 1·83 | 0·00 | 0·25 | 0·08 | 0·15 | 0·50 | 0·20 | 0·65 | 0·63 | 149 | 8·8 | 71·6 |
| **Cardiff** .. .. .. | **31·1** | **16·2** | **18·2** | **16·8** | **14·9** | **2·19** | — | **0·44** | **0·10** | **0·53** | **0·20** | **0·12** | **0·80** | **0·55** | **151** | **8·3** | **56·5** |
| Swansea .. .. .. | 29·4 | 17·0 | 18·3 | 16·8 | 15·8 | 1·36 | — | 0·45 | 0·10 | 0·11 | 0·42 | 0·07 | 0·21 | 0·40 | 140 | 8·7 | 70·8 |
| Wolverhampton .. .. | 35·1 | 20·7 | 24·4 | 20·0 | 22·0 | 4·22 | — | 0·53 | 0·24 | 0·62 | 0·44 | 0·28 | 2·11 | 0·72 | 217 | 11·5 | 59·8 |
| Birmingham .. .. | 33·3 | 18·6 | 20·3 | 20·8 | 21·6 | 3·88 | — | 0·79 | 0·18 | 0·29 | 0·44 | 0·18 | 2·00 | 0·77 | 214 | 11·2 | 74·3 |
| Norwich .. .. .. | 30·5 | 18·7 | 19·3 | 17·4 | 18·8 | 2·21 | — | 0·03 | 0·10 | 0·09 | 0·13 | 0·29 | 1·27 | 0·50 | 194 | 7·8 | 66·4 |
| Leicester .. .. .. | 30·6 | 14·7 | 17·2 | 16·7 | 17·7 | 3.13 | — | 0·07 | 0·35 | 0·36 | 0·40 | 0·19 | 1·76 | 0·60 | 205 | 8·4 | 63·9 |
| Nottingham .. .. | 28·9 | 17·2 | 19·0 | 17·5 | 18·8 | 2·81 | — | 0·21 | 0·15 | 0 09 | 0·49 | 0·21 | 1·66 | 0·67 | 206 | 9·0 | 69·8 |
| Derby .. .. .. | 27·1 | 15·0 | 16·7 | 15·7 | 16·0 | 1·92 | — | 0·17 | 0·10 | 0·09 | 0·21 | 0·25 | 1·10 | 0·50 | 168 | 7·8 | 76·2 |
| Birkenhead .. .. .. | 31·6 | 18·1 | 19·5 | 19·2 | 18·3 | 2·45 | — | 0·50 | 0·21 | 0·23 | 0·29 | 0·24 | 0·98 | 0·52 | 164 | 10·1 | 69·5 |
| Liverpool . .. .. | 35·3 | 23·8 | 28·8 | 22·7 | 24·4 | 3·83 | — | 0 54 | 0·33 | 0·20 | 0·56 | 0·27 | 1·93 | 1·10 | 200 | 14·1 | 79·0 |
| Bolton .. .. .. | 32·6 | 18·8 | 24·0 | 20·7 | 22·0 | 4·02 | — | 1 78 | 0·19 | 0·05 | 0·34 | 0·21 | 1·45 | 0·69 | 186 | 12·5 | 85·9 |
| Manchester .. .. .. | 33·2 | 20·4 | 25·2 | 22·6 | 23·1 | 3·81 | — | 1·18 | 0·23 | 0·09 | 0·56 | 0·19 | 1·56 | 0·81 | 195 | 13·4 | 84·2 |
| Salford .. .. .. | 35·1 | 21·0 | 25·6 | 22·6 | 23·9 | 5·50 | — | 2·22 | 0·29 | 0·15 | 0·53 | 0·31 | 2·00 | 0·67 | 219 | 13·6 | 76·8 |
| Oldham .. .. .. | 26·1 | 18·6 | 22·0 | 20·3 | 19·2 | 2·61 | — | 0·67 | 0·14 | 0·08 | 0·53 | 0·14 | 1·05 | 0·47 | 183 | 11·3 | 77·1 |
| Burnley .. .. .. | 29·8 | 18·7 | 23·4 | 17·5 | 19·5 | 3·98 | — | 1·33 | 0·05 | 0·57 | 0·60 | 0·18 | 1·25 | 0·55 | 220 | 10·5 | 70·5 |
| Blackburn .. .. . | 27·7 | 17·9 | 24·3 | 17·9 | 19·5 | 3·45 | — | 1·11 | 0·05 | 0·06 | 0·63 | 0·29 | 1·31 | 0·57 | 206 | 10·5 | 79·3 |
| Preston .. .. .. | 31·9 | 20·8 | 23·9 | 20·8 | 24·4 | 5·63 | — | 2·77 | 0·04 | 0·03 | 0·26 | 0·30 | 2·23 | 0·55 | 262 | 12·4 | 81·4 |
| Huddersfield .. .. | 23·4 | 15·8 | 16·9 | 16·5 | 16·4 | 1·50 | — | 0·27 | 0·32 | 0·20 | 0·21 | 0·15 | 0·35 | 0·52 | 131 | 9·8 | 71·0 |
| Halifax .. .. .. | 22·5 | 16·5 | 19·3 | 17·3 | 16·5 | 1·39 | — | 0·50 | 0·22 | 0·09 | 0·09 | 0·17 | 0·32 | 0·57 | 140 | 9·1 | 75·2 |
| Bradford .. .. . | 24·6 | 17·0 | 19·9 | 16·5 | 17·4 | 2·22 | — | 0·35 | 0·04 | 0·07 | 0·19 | 0·13 | 1·44 | 0 52 | 179 | 9·4 | 78·4 |
| Leeds .. .. .. | 31·6 | 17·9 | 20·5 | 18·8 | 19·9 | 2·80 | — | 0·40 | 0·23 | 0·16 | 0·24 | 0·20 | 1·57 | 0·65 | 190 | 10·4 | 79·9 |
| Sheffield .. .. .. | 34·4 | 17·8 | 20·5 | 19·3 | 21·2 | 3·49 | — | 0·56 | 0·26 | 0·13 | 0·40 | 0·31 | 1·83 | 0·56 | 198 | 11·0 | 82·4 |
| Hull .. .. .. | 33·4 | 17·4 | 20·8 | 18·9 | 18·6 | 3·25 | 0·00 | 0·11 | 0·27 | 0·14 | 0·25 | 0·25 | 2·23 | 0·71 | 181 | 9·2 | 67·8 |
| Sunderland .. .. .. | 34·6 | 20·8 | 21·8 | 19·8 | 19·7 | 2·56 | — | 0·44 | 0·08 | 0·03 | 0·54 | 0·27 | 1·20 | 0·68 | 165 | 10·7 | 74·1 |
| Gateshead .. .. .. | 35·8 | 17·7 | 19·6 | 19·1 | 18·3 | 2·33 | — | 0·50 | 0·17 | 0·08 | 0·31 | 0·20 | 1·07 | 0·36 | 172 | 9·4 | 68·1 |
| Newcastle .. .. . | 31·3 | 18·3 | 20·5 | 18·5 | 19·1 | 2·09 | — | 0·43 | 0·10 | 0·12 | 0·28 | 0·16 | 1·00 | 0·92 | 178 | 10·7 | 72·2 |

**TABLE XIII.**—33 Towns.—Death Rates per 1,000 living from All Causes, and from the Principal Zymotic Diseases, and Infant Mortality, in the Ten Years, 1887-96, and in 1897.

In this Table 0·00 indicates that the deaths were too few to give a rate of 0·005; when *no death* occurred, — is inserted.

| Cities and Boroughs. | All Causes. | | Small-Pox. | | Measles. | | Scarlet Fever. | | Diphtheria. | | Whooping-Cough. | | Fever. | | Diarrhœa. | | Deaths under One Year to 1,000 Births. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ten Years. 1887-96. | 1897. | Ten Years. 1887-96. | 1897. | Ten Years. 1887-96. | 1897. | Ten Years. 1887-96. | 1897. | Ten Years 1887-96. | 1897. | Ten Years. 1887-96. | 1897. | Ten Years. 1887-96. | 1897. | Ten Years. 1887-96. | 1897. | Ten Years. 1887-96. | 1897. |
| 33 Towns .. .. | 20·6 | 19·1 | 0·02 | 0·00 | 0 62 | 0·55 | 0·27 | 0·18 | 0·29 | 0·31 | 0·55 | 0·41 | 0·20 | 0·18 | 0·84 | 1·24 | 167 | 177 |
| London* .. .. .. | 19·9 | 18·2 | 0·01 | 0·00 | 0·64 | 0·43 | 0·25 | 0·18 | 0·45 | 0·51 | 0·59 | 0·41 | 0·15 | 0·13 | 0·67 | 0·92 | 155 | 159 |
| West Ham .. .. .. | 17·8 | 15·7 | 0·05 | — | 0·68 | 0·51 | 0·25 | 0·11 | 0·43 | 0·37 | 0·59 | 0·36 | 0·23 | 0·18 | 0·77 | 1·08 | 154 | 172 |
| Croydon .. .. . | 14·5 | 13·1 | 0·00 | — | 0·39 | 0 14 | 0·06 | 0·10 | 0·32 | 0·07 | 0·42 | 0·26 | 0·11 | 0·07 | 0·46 | 0·79 | 126 | 135 |
| Brighton .. .. .. | 17·7 | 15 1 | — | — | 0·40 | 0·14 | 0·07 | 0·10 | 0·18 | 0·10 | 0·34 | 0·21 | 0·11 | 0·18 | 0·66 | 0·91 | 149 | 144 |
| Portsmouth .. .. .. | 17 6 | 16·2 | 0·01 | — | 0·45 | 0·19 | 0·11 | 0·06 | 0·18 | 0·15 | 0·32 | 0·35 | 0·24 | 0·24 | 0·77 | 1·54 | 147 | 168 |
| Plymouth .. .. .. | 20·9 | 19·0 | 0·01 | — | 0·53 | 0·50 | 0·49 | 0·05 | 0·15 | 0·13 | 0·45 | 0 54 | 0·17 | 0·08 | 0·65 | 0·87 | 170 | 185 |
| Bristol .. .. .. | 18·9 | 17·2 | 0·04 | 0·00 | 0·51 | 0.25 | 0·24 | 0·08 | 0·13 | 0·15 | 0·46 | 0·50 | 0·11 | 0·20 | 0·49 | 0·65 | 144 | 149 |
| **Cardiff** .. .. .. | **19·0** | **14·9** | **0·02** | — | **0·45** | **0·44** | **0·21** | **0·10** | **0·27** | **0·53** | **0·49** | **0·20** | **0·17** | **0·12** | **0·83** | **0·80** | **162** | **151** |
| Swansea .. .. .. | 19·5 | 15·8 | 0·00 | — | 0 57 | 0·45 | 0·60 | 0·10 | 0·08 | 0·11 | 0·46 | 0·42 | 0·21 | 0·07 | 0·40 | 0·21 | 158 | 140 |
| Wolverhampton .. .. | 22·0 | 22·0 | 0·01 | — | 0·42 | 0·53 | 0·24 | 0·24 | 0·25 | 0·62 | 0·46 | 0·44 | 0·22 | 0·28 | 1·12 | 2·11 | 184 | 217 |
| Birmingham .. .. | 20·7 | 21·6 | 0·05 | — | 0·49 | 0·79 | 0·22 | 0·18 | 0·19 | 0·29 | 0·60 | 0·44 | 0·16 | 0·18 | 1·05 | 2·00 | 176 | 214 |
| Norwich .. .. .. | 19·1 | 18·8 | — | — | 0·49 | 0·03 | 0·13 | 0·10 | 0·22 | 0·09 | 0·46 | 0·43 | 0·23 | 0·29 | 0·82 | 1·27 | 172 | 194 |
| Leicester .. .. .. | 18·7 | 17·7 | 0·01 | — | 0·47 | 0 07 | 0·16 | 0·35 | 0·12 | 0·36 | 0·40 | 0·40 | 0·21 | 0·19 | 1·50 | 1·76 | 199 | 205 |
| Nottingham .. .. | 19·0 | 18·8 | 0·01 | — | 0·41 | 0·21 | 0·18 | 0·15 | 0·07 | 0·09 | 0·46 | 0·49 | 0·31 | 0·21 | 0·95 | 1·66 | 170 | 206 |
| Derby .. .. .. | 17·6 | 16·0 | 0·02 | — | 0·44 | 0·17 | 0·13 | 0·10 | 0·13 | 0·09 | 0·41 | 0·21 | 0·20 | 0·25 | 0·66 | 1·10 | 150 | 168 |
| Birkenhead .. .. .. | 19·9 | 18·3 | 0·00 | — | 0·58 | 0·50 | 0·24 | 0·21 | 0·17 | 0·23 | 0·51 | 0·29 | 0·32 | 0·24 | 0·73 | 0·98 | 165 | 164 |
| Liverpool .. .. .. | 25·7 | 24·4 | 0·01 | — | 0·77 | 0·54 | 0·48 | 0·33 | 0·16 | 0·20 | 0·61 | 0·56 | 0·36 | 0·27 | 1·10 | 1·93 | 188 | 200 |
| Bolton .. .. .. | 22·4 | 22·0 | 0·01 | — | 0·70 | 1·78 | 0·32 | 0·19 | 0·12 | 0·05 | 0·62 | 0·34 | 0·30 | 0·21 | 1·25 | 1·45 | 178 | 186 |
| Manchester .. .. | 25·3 | 23·1 | 0·02 | — | 0·87 | 1·18 | 0·39 | 0·23 | 0·27 | 0·09 | 0·61 | 0·56 | 0·27 | 0·19 | 1·07 | 1·56 | 184 | 195 |
| Salford .. .. .. | 24·7 | 23·9 | 0·01 | — | 0·94 | 2·22 | 0·52 | 0·29 | 0·41 | 0·15 | 0·73 | 0·53 | 0·42 | 0·31 | 1·37 | 2·00 | 195 | 219 |
| Oldham .. .. .. | 22·5 | 19·2 | 0·10 | — | 0·78 | 0·67 | 0·33 | 0·14 | 0·20 | 0·08 | 0·54 | 0·53 | 0·17 | 0·14 | 0·59 | 1·05 | 179 | 183 |
| Burnley .. .. .. | 21·1 | 19·5 | 0·01 | — | 0·54 | 1·33 | 0·32 | 0·05 | 0·19 | 0·57 | 0·33 | 0·60 | 0·28 | 0·18 | 1·32 | 1·25 | 208 | 220 |
| Blackburn .. .. .. | 23·3 | 19·5 | 0·02 | — | 0·93 | 1·11 | 0·47 | 0·05 | 0·04 | 0·06 | 0·51 | 0·63 | 0·27 | 0·29 | 1·21 | 1·31 | 200 | 206 |
| Preston .. .. .. | 25·1 | 24·4 | 0·05 | — | 0·67 | 2·77 | 0·26 | 0·04 | 0·16 | 0·03 | 0·57 | 0·26 | 0·36 | 0·30 | 2·05 | 2·23 | 229 | 262 |
| Huddersfield .. .. | 19·0 | 16·4 | 0·00 | — | 0·54 | 0·27 | 0·24 | 0·32 | 0·16 | 0·20 | 0·40 | 0·21 | 0·13 | 0·15 | 0·31 | 0·35 | 163 | 131 |
| Halifax .. .. .. | 19·7 | 16·5 | 0·06 | — | 0·35 | 0·50 | 0·17 | 0·22 | 0·14 | 0·09 | 0·29 | 0·09 | 0·16 | 0·17 | 0·25 | 0·32 | 160 | 140 |
| Bradford .. .. .. | 19·9 | 17·4 | 0·07 | — | 0·49 | 0·35 | 0·29 | 0·04 | 0·07 | 0·07 | 0·49 | 0·19 | 0·16 | 0·13 | 0·83 | 1·44 | 171 | 179 |
| Leeds .. .. .. | 20·9 | 19·9 | 0·01 | — | 0·57 | 0·40 | 0·21 | 0·23 | 0·10 | 0·16 | 0·45 | 0·24 | 0·23 | 0·20 | 1·05 | 1·57 | 176 | 190 |
| Sheffield .. .. .. | 21·5 | 21·2 | 0·23 | — | 0·59 | 0·56 | 0·41 | 0·26 | 0·15 | 0 13 | 0·53 | 0·40 | 0·23 | 0·31 | 1·13 | 1·83 | 178 | 198 |
| Hull .. .. .. | 20·0 | 18·6 | 0·02 | 0·00 | 0·53 | 0·11 | 0·18 | 0·27 | 0·11 | 0·14 | 0·39 | 0·25 | 0·23 | 0·25 | 1·18 | 2·23 | 171 | 181 |
| Sunderland .. .. .. | 21·8 | 19·7 | 0·01 | — | 0·67 | 0·44 | 0·21 | 0·08 | 0·09 | 0.03 | 0·45 | 0·54 | 0·49 | 0·27 | 1·10 | 1·20 | 167 | 165 |
| Gateshead .. .. .. | 19·9 | 18·3 | 0·00 | — | 0·65 | 0·50 | 0·21 | 0·17 | 0·13 | 0·08 | 0·59 | 0·31 | 0·23 | 0·20 | 0·98 | 1·07 | 165 | 172 |
| Newcastle . .. .. | 21·0 | 19·1 | 0·00 | — | 0·58 | 0·43 | 0·15 | 0·10 | 0·20 | 0·12 | 0·52 | 0·28 | 0·17 | 0·16 | 0·65 | 1·00 | 166 | 178 |

TABLE XIV.—Gives the population of each year, the annual deaths from all causes, from the seven chief zymotic diseases, and the death-rates from 1845 to 1897, inclusive, in the Borough of Cardiff.

| Year. | Population. | All Causes. | | | Seven Chief Zymotic Diseases. | | |
|---|---|---|---|---|---|---|---|
| | | No. of Deaths. | Death Rates per 1,000. | Mean of 10 years. | No. of Deaths. | Death Rates per 1,000. | Mean of 10 years. |
| 1845 | 13,385 | 324 | 24·2 | | 51 | 3·8 | |
| 1846 | 14,212 | 321 | 22·6 | | 50 | 3·5 | |
| 1847 | 15,039 | 484 | 32·2 | | 133 | 8·8 | |
| 1848 | 15,856 | 579 | 36·5 | | 186 | 11·7 | |
| 1849 | 16,693 | 864 | 51·7 | | 483 | 28·9 | |
| 1850 | 17,520 | 485 | 27·7 | 33·1 | 116 | 6·6 | 10·0 |
| 1851 | 18,354 | 525 | 28·6 | | 81 | 4·4 | |
| 1852 | 19,724 | 620 | 31·4 | | 175 | 8·8 | |
| 1853 | 21,094 | 644 | 30·5 | | 129 | 6·1 | |
| 1854 | 22,464 | 925 | 41·1 | | 353 | 15·7 | |
| 1855 | 23,834 | 641 | 26·9 | | 665 | 2·7 | |
| 1856 | 25,204 | 772 | 30·6 | | 136 | 5·3 | |
| 1857 | 26,574 | 883 | 33·2 | | 234 | 8·8 | |
| 1858 | 27,944 | 753 | 26·9 | | 128 | 4·5 | |
| 1859 | 29,314 | 826 | 28·1 | | 212 | 7·2 | |
| 1860 | 30,684 | 662 | 21·5 | 26·5 | 95 | 3·0 | 7·4 |
| 1861 | 32,054 | 837 | 26·1 | | 100 | 3·1 | |
| 1862 | 32,804 | 695 | 21·2 | | 132 | 4·0 | |
| 1863 | 33,552 | 862 | 25·7 | | 268 | 7·0 | |
| 1864 | 34,300 | 932 | 27·1 | | 250 | 7·3 | |
| 1865 | 35,048 | 867 | 24·7 | | 161 | 4·5 | |
| 1866 | 35,796 | 882 | 24·6 | | 192 | 5·3 | |
| 1867 | 36,544 | 873 | 23·8 | | 116 | 3·1 | |
| 1868 | 37,292 | 843 | 22·6 | | 109 | 2·9 | |
| 1869 | 38,040 | 1,005 | 26·4 | | 156 | 4·1 | |
| 1870 | 38,788 | 903 | 23·2 | 23·5 | 133 | 3·4 | 3·9 |
| 1871 | 39,356 | 891 | 22·5 | | 158 | 3·9 | |
| 1872 | 40,284 | 916 | 22·7 | | 234 | 5·8 | |
| 1873 | 41,032 | 995 | 24·2 | | 103 | 2·5 | |
| 1874 | 41,780 | 885 | 21·2 | | 154 | 3·6 | |
| *1875 | 69,850 | 1,547 | 22·1 | | 294 | 4·2 | |
| 1876 | 72,438 | 1,455 | 20·8 | | 339 | 4·6 | |
| 1877 | 75,026 | 1,475 | 19·6 | | 255 | 3.5 | |
| 1878 | 77,614 | 1,468 | 18·9 | | 197 | 2·5 | |
| 1879 | 80,202 | 1,428 | 17·6 | | 137 | 1·7 | |
| 1880 | 82,790 | 1,634 | 19·7 | 20·0 | 306 | 3·7 | 3·3 |
| 1881 | 85,378 | 1,556 | 18·2 | | 164 | 1·9 | |
| 1882 | 88,603 | 1,724 | 19·4 | | 293 | 3·3 | |
| 1883 | 91,204 | 1,807 | 19·8 | | 253 | 2·7 | |
| 1884 | 93,468 | 2,250 | 24·3 | | 476 | 5·0 | |
| 1885 | 97,034 | 2,481 | 25·5 | | 521 | 5·3 | |
| 1886 | 100,736 | 2,269 | 22·5 | | 532 | 3·2 | |
| 1887 | 104,580 | 2,280 | 21·8 | | 278 | 2·6 | |
| 1888 | 108,570 | 2,212 | 20·3 | | 324 | 2·9 | |
| 1889 | 112,712 | 2,190 | 19·4 | | 248 | 2·1 | |
| 1890 | 117,012 | 2,469 | 21·1 | 20·4 | 282 | 2·4 | 2·9 |
| 1891 | 130,283 | 2,873 | 22·0 | | 272 | 2·1 | |
| 1892 | 136,181 | 2,560 | 18·7 | | 371 | 2·7 | |
| 1893 | 142,435 | 2,794 | 19·6 | | 408 | 2·8 | |
| 1894 | 148,890 | 2,415 | 16·2 | | 257 | 1·7 | |
| 1895 | 155,637 | 2,840 | 18·2 | | 324 | 2·0 | |
| 1896 | 162,690 | 2,795 | 16·8 | | 362 | 2·2 | |
| 1897 | 170,063 | 2,534 | 14·9 | | 371 | 2·1 | |

* Canton and Roath taken into the Borough.

**TABLE XV.**—Annual Death-rate per 1,000 of the 33 large Towns in England and Wales for the 10 years, 1888—1897 inclusive.

| 33 Large Towns. | Annual Death-rate per 1,000 living. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 |
| London ... ... | 18·5 | 17·4 | 20·3 | 21·4 | 20·6 | 21·3 | 17·8 | 19·8 | 18·6 | 18·2 |
| West Ham ... ... | ... | ... | ... | ... | 18·6 | 18·9 | 16·2 | 17·9 | 16·1 | 15·7 |
| Croydon ... ... | ... | ... | ... | ... | 15·8 | 16·3 | 13·2 | 14·5 | 14·2 | 13·1 |
| Brighton ... ... | 16·1 | 15·1 | 17·8 | 18·2 | 19·2 | 18·4 | 16·4 | 18·9 | 16·1 | 15·1 |
| Portsmouth ... ... | 18·7 | 18·1 | 19·6 | 19·0 | 18·5 | 18·2 | 15·2 | 17·8 | 16·6 | 16·2 |
| Plymouth ... ... | 22·3 | 25·2 | 22·4 | 22·5 | 18·8 | 21·2 | 18·3 | 20·1 | 19·6 | 19·0 |
| Bristol ... ... | 16·9 | 17·6 | 19·2 | 20·9 | 19·5 | 18·9 | 17·3 | 18·1 | 16·9 | 17·2 |
| Swansea ... ... | ... | ... | ... | ... | 20·4 | 19·6 | 17·0 | 18·3 | 16·8 | 15·8 |
| Wolverhampton ... | 20·7 | 20·6 | 21·8 | 24·2 | 21·5 | 23·3 | 20·7 | 24·4 | 20·0 | 22·5 |
| Birmingham ... | 17·8 | 18·7 | 20·7 | 22·2 | 20·4 | 22·2 | 18·6 | 20·3 | 20·8 | 21·6 |
| Norwich ... ... | 20·2 | 18·3 | 21·1 | 19·3 | 20·0 | 19·3 | 18·7 | 19·3 | 17·4 | 18·8 |
| Leicester ... ... | 18·3 | 16·9 | 17·9 | 21·7 | 18·2 | 20·0 | 14·7 | 17·2 | 16·7 | 17·7 |
| Nottingham... ... | 17·3 | 17·0 | 16·5 | 19·9 | 18·7 | 18·5 | 17·2 | 19·0 | 17·5 | 18·8 |
| Derby ... ... | 16·3 | 16·3 | 18·5 | 19·1 | 19·3 | 18·2 | 15·0 | 16·7 | 15·7 | 16·0 |
| Birkenhead .. ... | 17·8 | 17·8 | 19·7 | 20·9 | 19·6 | 20·5 | 18·1 | 19·5 | 19·2 | 18·3 |
| Liverpool ... ... | 20·3 | 21·5 | 23·6 | 27·0 | 24·7 | 27·3 | 23·8 | 28·8 | 22·7 | 24·4 |
| Bolton ... ... | 21·6 | 22·0 | 25·8 | 21·9 | 22·8 | 24·1 | 18·8 | 24·0 | 20·7 | 22·0 |
| Manchester ... ... | 26·1 | 26·7 | 30·6 | 26·5 | 23·8 | 24·9 | 20·4 | 25·2 | 22·6 | 23·1 |
| Salford ... ... | 21·1 | 20·4 | 22·4 | 26·0 | 24·6 | 24·1 | 21·0 | 25·6 | 22·6 | 23·9 |
| Oldham ... ... | 20·3 | 20·4 | 21·2 | 25·7 | 22·0 | 21·0 | 18·6 | 22·0 | 20·3 | 19·2 |
| Burnley ... ... | ... | ... | ... | ... | 20·4 | 21·9 | 18·7 | 23·4 | 17·5 | 19·5 |
| Blackburn ... ... | 23·9 | 25·4 | 23·5 | 25·8 | 21·7 | 23·3 | 17·9 | 24·3 | 17·9 | 19·5 |
| Preston ... ... | 23·9 | 30·0 | 27·4 | 27·3 | 24·1 | 26·4 | 20·8 | 23·9 | 20·8 | 24·4 |
| Huddersfield ... | 18·5 | 18·8 | 19·0 | 23·0 | 18·1 | 17·2 | 15·8 | 16·9 | 16·5 | 16·4 |
| Halifax ... ... | 19·1 | 21·5 | 22·5 | 22·8 | 19·5 | 17·4 | 16·5 | 19·3 | 17·3 | 16·5 |
| Bradford ... ... | 17·1 | 19·1 | 20·4 | 22·2 | 18·0 | 21·0 | 17·0 | 19·9 | 16·5 | 17·5 |
| Leeds ... ... | 20·6 | 22·0 | 22·6 | 22·9 | 19·8 | 22·3 | 17·9 | 20·5 | 18·8 | 19·9 |
| Sheffield ... ... | 20·5 | 20·8 | 24·9 | 23·9 | 20·8 | 22·3 | 17·8 | 20·5 | 19·3 | 21·2 |
| Hull ... ... | 16·4 | 20·2 | 19·2 | 21·0 | 19·6 | 21·8 | 17·4 | 20·8 | 18·9 | 18·6 |
| Sunderland ... ... | 18·1 | 22·8 | 22·7 | 25·0 | 20·9 | 22·5 | 20·8 | 21·8 | 19·8 | 19·7 |
| Gateshead ... ... | ... | ... | ... | ... | 18·9 | 19·3 | 17·7 | 19·6 | 19·1 | 18·3 |
| Newcastle-on-Tyne ... | 20·5 | 25·1 | 25·9 | 23·8 | 19·7 | 21·0 | 18·3 | 20·5 | 18·5 | 19·1 |
| **Cardiff ... ...** | **20·3** | **19·4** | **21·1** | **22·0** | **18·8** | **19·6** | **16·2** | **18·2** | **16·8** | **14·9** |
| Large Towns... | 19·2 | 19·3 | 21·3 | 22·5 | 20·7 | 21·6 | 18·1 | 20·7 | 18·9 | 19·1 |

CORRECTED DEATH-RATE.—Table XVI., which is taken from the Annual Summary of the Registrar-General for the year 1897, gives the recorded and corrected death-rates in the large towns: It may, perhaps, be well to explain the necessity of this correction of death-rates, which is made annually by the Registrar-General for the purpose of comparing the mortality in different towns. The general or crude death-rate in any town is, of course, the proportion borne by deaths from all causes to each thousand of the population, and in any one year it is obtained arithmetically by multiplying the number of deaths by one thousand and dividing by the population. Thus in 1897—

$$\frac{\text{No. of deaths} = 2{,}534 \times 1{,}000}{\text{Population at the middle of the year} = 170{,}063} = 14{\cdot}9 \text{ the death-rate}$$

in Cardiff for that year. In the first place it is obvious that if the population be over-estimated the death-rate will be under-stated. This error cannot be satisfactorily corrected without a more frequent census enumeration of the population. The other fallacies which may detract from the value of the crude death-rate as a test of the relative healthiness of towns result from the difference in the age and sex distribution in different localities. Therefore, although it is safe to compare the death-rate of one year with those of other years in the same place, it is not so in the case of different localities in which the age and sex distribution of the population differ to any considerable extent. Practically, however, this correction is only necessary when extreme accuracy is required, for on comparing the recorded with the corrected rates in Table XVI., it will be seen

that their relative position is not altered to any appreciable extent. The object of this correction will be readily appreciated on referring to Table XI., which gives the death-rates at different age periods, calculated on the estimated number of persons living at those ages. It will be seen that that there is a much greater tendency to death among the very old and very young than among young adults and middle-aged persons. A district having an unduly large proportion of persons at the extreme ages of life will necessarily have a higher general death-rate than a district containing a large proportion of young and vigorous adults, although both places may be on a perfect equality as regards their climate and sanitary arrangements. The effect of a varying age distribution on the death-rate of England and Wales is pointed out by Dr. Tatham in his supplement to the 55th Annual Report of the Registrar-General. "There is no doubt," he says, "that a consider-"able proportion of the diminution in the death-rate since the year 1870 is the direct result of what is "implied by the term 'improved sanitation,' but that the whole of the difference between the rates "of the two most recent decennia cannot thus be accounted for will be obvious on reflection." He then goes on to show "that the numbers both of males and females living between the ages of 10 "and 45 years were relatively greater in 1881—90 than in the preceding decennium," And further, "That sanitary conditions remaining unchanged, the effect of this variation in the age-constitution "of the population must necessarily be to reduce the *mortality at all ages;* and that this has "actually been the case."

It is of interest to note the extent of the variation in the age constitution of the population of Cardiff and its possible influence on the rate of mortality since the year 1881. The following figures show that the proportion of persons living at the age period 0—5 years was, in 1897, 1·0 per cent. below the proportion living at the same age period in 1881, consequently as the death-rate at this age period is relatively high, this variation would in itself, have the effect of reducing the general death-rate, although only to a slight extent. And further, that the proportion of persons living at the age period 15—40 was in 1897 0·7 per cent. above the proportion living at the same age period in 1881, and that as the death-rate at this age period is relatively low, the variation in this case would in itself also tend to reduce the general death-rate although again to a slight extent. In the following figures the proportion of persons living at groups of ages is given as a percentage of the whole population, which, for the year 1881 is taken from the census, and for 1897 from the estimated population for that year.

| 1881. | | | 1897. | | |
|---|---|---|---|---|---|
| 0— 5 years | ... | 14·3 per cent. | 0— 5 years | ... | 13·3 per cent. |
| 10—15 ,, | ... | 10·9 ,, | 10—15 ,, | ... | 10·4 ,, |
| 15—40 ,, | ... | 43·7 ,, | 15—40 ,, | ... | 44·4 ,, |
| 70— ,, | ... | 1·4 ,, | 70— ,, | ... | 1·3 ,, |

In the same way an uneven distribution of the sexes in a given population may affect the general death-rate. At nearly all ages the death-rate of females is lower than that of males, consequently an excess of females will of itself tend to reduce the death-rate.

In order therefore to make a more correct comparison of the mortality of different towns, it is necessary to know the difference that exists between them in respect of the age and sex distribution of their populations.

The Registrar General has given "factors" for the large towns based upon the age and sex distribution, as ascertained by the census. In order to obtain the corrected death-rate in each town he multiplies the recorded death-rate by this factor, the effect of which is to neutralize the disparity and to give rates that would have been recorded in the several towns had their populations been identical so far as age and sex distribution is concerned with the population of England and Wales.

Table XVI. giving the recorded and corrected death-rates per 1,000 persons living in the 33 large towns in 1897.

**TABLE XVI.**—Recorded and Corrected Death-rates—33 Great Towns, 1897. (Registrar General's Returns.)

| Towns in the Order of their Corrected Death-rate. | Standard Death-rate. | Factor for Correction for Sex and Age Distribution. | Recorded Average Death-rate 1897. | Corrected Death-rate 1897. | Comparative Mortality Figure 1897. |
|---|---|---|---|---|---|
| | Col. 1. | Col. 2. | Col. 3. | Col. 4. | Col. 5. |
| England and Wales ... | 19·15 | 1·0000 | 17·4 | 17·4 | 1000 |
| 33 Great Towns... ... | 17·71 | 1·0813 | 19·1 | 20·6 | 1183 |
| Croydon ... ... | 18·37 | 1·0424 | 13·1 | 13·6 | 781 |
| Brighton ... ... | 18·94 | 1·0110 | 15·1 | 15·2 | 873 |
| Portsmouth ... ... | 18·73 | 1·0224 | 16·2 | 16·5 | 948 |
| **Cardiff .. .. ..** | **17·16** | **1·1159** | **14·9** | **16·6** | **902** |
| West Ham ... ... | 17·75 | 1·0788 | 15·7 | 16·9 | 971 |
| Swansea ... ... | 17·53 | 1·0924 | 15·8 | 17·2 | 988 |
| Derby ... ... | 17·36 | 1·1031 | 16·0 | 17·6 | 1011 |
| Bristol ... ... | 18·33 | 1·0447 | 17·2 | 17·9 | 1028 |
| Norwich ... ... | 19·99 | 0·9579 | 18·8 | 18·0 | 1034 |
| Halifax ... ... | 17·20 | 1·1133 | 16·5 | 18·3 | 1051 |
| Plymouth ... ... | 19·70 | 0·9720 | 19·0 | 18·4 | 1057 |
| Huddersfield ... ... | 16·47 | 1·1627 | 16·4 | 19·0 | 1091 |
| Leicester ... ... | 17·64 | 1·0855 | 17·7 | 19·2 | 1103 |
| London ... ... | 17·97 | 1·0656 | 18·2 | 19·3 | 1109 |
| Hull ... ... ... | 18·23 | 1·0504 | 18·6 | 19·5 | 1120 |
| Gateshead ... ... | 17·83 | 1·0740 | 18·3 | 19·6 | 1126 |
| Bradford ... ... | 16·73 | 1·1446 | 17·5 | 20·0 | 1149 |
| Birkenhead ... ... | 17·42 | 1·0993 | 18·3 | 20·1 | 1155 |
| Nottingham ... ... | 17·81 | 1·0752 | 18·8 | 20·2 | 1160 |
| Sunderland ... ... | 18·25 | 1·0493 | 19·7 | 20·6 | 1183 |
| Newcastle-on-Tyne ... | 17·58 | 1·0892 | 19·1 | 20·8 | 1195 |
| Blackburn ... ... | 17·05 | 1·1231 | 19·5 | 20·9 | 1201 |
| Oldham ... ... | 16·72 | 1·1453 | 19·2 | 21·9 | 1258 |
| Leeds ... ... | 17·28 | 1·1082 | 19·9 | 22·0 | 1264 |
| Burnley ... ... | 16·67 | 1·1487 | 19·5 | 22·3 | 1281 |
| Sheffield ... ... | 17·22 | 1·1120 | 21·2 | 23·5 | 1350 |
| Wolverhampton... ... | 18·30 | 1·0464 | 22·5 | 23·5 | 1350 |
| Birmingham ... ... | 17·33 | 1·1050 | 21·6 | 23·8 | 1367 |
| Bolton ... ... | 16·90 | 1·1331 | 21·9 | 24·8 | 1425 |
| Manchester ... ... | 16·90 | 1·1331 | 23·1 | 26·1 | 1500 |
| Preston ... ... | 17·42 | 1·0993 | 24·4 | 26·8 | 1540 |
| Salford ... ... | 17·03 | 1·1244 | 23·9 | 26·8 | 1540 |
| Liverpool ... ... | 17·26 | 1·1094 | 24·4 | 27·0 | 1551 |

Crude or Recorded Death-rate is the rate of mortality calculated from population and registered deaths without reference to sex or age.

Standard Death-rate or Death-rate in Standard Population is the death-rate at all ages calculated on the assumption that the rates at each twelve age periods were the same as in England and Wales during 1881-90.

The Factor for Correction is the figures by which the crude death-rate should be multiplied in order to correct for age and sex distribution.

The Corrected Death-rate is the crude death-rate multiplied by the factor for correction.

The Comparative Mortality Figure represents the comparison between the corrected death-rate for each town and that for England and Wales, which is taken as 1,000.

INFANT MORTALITY.—The rate of infant mortality as measured by the proportion of deaths of infants under one year of age to 1,000 births registered was 151 as compared with 165 in 1896, and 179 in 1895. In the thirty-three large towns the average rate of infant mortality was equal to 177 per 1,000 births and exceeded by 10 per 1,000 the mean rate in the ten preceding years. In London the rate of infant mortality was equal to 159 per 1,000, while it ranged from 131 in Huddersfield, 135 in Croydon, 140 in Swansea and in Halifax to 206 in Nottingham and in Blackburn, 214 in Birmingham, 217 in Wolverhampton, 219 in Salford, and 262 in Preston.

The proportion of deaths under one year of age to 1,000 births in Cardiff as compared with the average in the large towns is given below.

## TABLE XVII.

| TEN YEARS | CARDIFF. | LARGE TOWNS. |
|---|---|---|
| 1881—90 | 165 | 162 |
| YEAR. | | |
| 1891 | 153 | 167 |
| 1892 | 163 | 164 |
| 1893 | 179 | 181 |
| 1894 | 141 | 152 |
| 1895 | 179 | 182 |
| 1896 | 165 | 167 |
| 1897 | 151 | 177 |

Amongst the zymotic diseases the Infant mortality from diarrhœa was the highest, this disease causing more deaths than all the other zymotic diseases together, measles and whooping coming next in order of fatality. In previous reports it has been shown that one of the conditions largely influencing Infant mortality in some towns does not exist to any extent in Cardiff, namely, the employment in factories of young married females. Maternal ignorance upon the subject of infant feeding prevails largely, especially amongst the poorer classes, and is responsible for a large proportion of the deaths attributed to diarrhœa and diseases of the digestive system, and probably also indirectly for a considerable number of the deaths assigned to other diseases.

## TABLE XVIII.

| CAUSES OF DEATH. | Number of Deaths under One Year of Age. |
|---|---|
| Premature Birth ... ... ... ... ... ... ... | 71 |
| Congenital Defects ... ... ... ... ... ... ... | 3 |
| Diphtheria... ... ... ... ... ... ... ... | 4 |
| Scarlet Fever ... ... ... ... ... ... ... | — |
| Measles ... ... ... ... ... ... ... ... | |
| Whooping Cough ... ... ... ... ... ... ... | 22 |
| Diseases of Respiratory System ... ... ... ... ... | 134 |
| ,, Nervous System ... ... ... ... ... ... | 99 |
| ,, Digestive System ... ... ... ... ... ... | 117 |
| Diarrhœa ... ... ... ... ... ... ... ... | 103 |
| Tubercular Meningitis ... ... ... ... ... ... | 25 |
| Other Tubercular Diseases ... ... ... ... ... ... | 18 |
| Violence ... ... ... ... ... ... ... ... | 5 |
| Other Diseases ... ... ... ... .. ... ... | 169 |

**TABLE XIX.**—Infant Mortality in Cardiff as compared with that of the large towns in England and Wales.

| Large Towns. | Deaths under one year to 1,000 Births registered. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 10 Years, 1881-1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. |
| London ... ... | 152 | 154 | 155 | 164 | 143 | 166 | 161 | 158 |
| West Ham ... ... | ... | ... | 153 | 170 | 138 | 168 | 165 | 171 |
| Croydon ... ... | ... | ... | 123 | 155 | 121 | 134 | 150 | 134 |
| Brighton ... ... | 146 | 137 | 151 | 169 | 138 | 164 | 135 | 142 |
| Portsmouth ... ... | 138 | 139 | 156 | 164 | 131 | 175 | 154 | 168 |
| Plymouth ... ... | 159 | 178 | 137 | 169 | 169 | 178 | 178 | 183 |
| Bristol ... ... | 141 | 146 | 147 | 141 | 150 | 143 | 142 | 148 |
| Swansea ... ... | ... | ... | 175 | 170 | 163 | 178 | 161 | 139 |
| Wolverhampton ... | 166 | 190 | 172 | 208 | 166 | 218 | 184 | 217 |
| Birmingham ... ... | 167 | 171 | 166 | 198 | 163 | 183 | 197 | 214 |
| Norwich ... ... | 155 | 159 | 182 | 195 | 164 | 190 | 164 | 196 |
| Leicester ... ... | 202 | 214 | 196 | 220 | 162 | 203 | 187 | 205 |
| Nottingham ... ... | 171 | 169 | 167 | 170 | 174 | 190 | 168 | 205 |
| Derby ... ... | 145 | 142 | 173 | 156 | 123 | 161 | 151 | 167 |
| Birkenhead ... ... | 149 | 148 | 168 | 196 | 143 | 174 | 177 | 162 |
| Liverpool ... ... | 183 | 188 | 181 | 211 | 179 | 210 | 173 | 200 |
| Bolton ... ... | 175 | 165 | 180 | 199 | 162 | 212 | 168 | 186 |
| Manchester ... ... | 179 | 192 | 179 | 203 | 160 | 203 | 176 | 194 |
| Salford ... ... | 183 | 194 | 185 | 210 | 174 | 231 | 199 | 220 |
| Oldham ... ... | 171 | 292 | 177 | 187 | 161 | 190 | 184 | 183 |
| Burnley ... ... | ... | ... | 192 | 223 | 170 | 242 | 170 | 219 |
| Blackburn ... ... | 191 | 204 | 198 | 241 | 169 | 236 | 171 | 207 |
| Preston ... ... | 222 | 227 | 216 | 269 | 217 | 248 | 203 | 263 |
| Huddersfield ... ... | 169 | 185 | 150 | 141 | 160 | 158 | 166 | 130 |
| Halifax ... ... | 161 | 169 | 166 | 173 | 135 | 158 | 149 | 139 |
| Bradford ... ... | 165 | 181 | 155 | 197 | 145 | 203 | 143 | 178 |
| Leeds ... ... | 173 | 177 | 169 | 206 | 155 | 191 | 169 | 191 |
| Sheffield ... ... | 171 | 170 | 171 | 191 | 157 | 197 | 173 | 197 |
| Hull ... ... ... | 159 | 172 | 166 | 206 | 142 | 205 | 173 | 178 |
| Sunderland ... ... | 158 | 176 | 157 | 188 | 167 | 189 | 158 | 163 |
| Gateshead ... ... | ... | ... | 154 | 170 | 152 | 186 | 172 | 173 |
| Newcastle-on-Tyne ... | 163 | 174 | 151 | 174 | 157 | 186 | 165 | 177 |
| **Cardiff . ... ..** | **165** | **153** | **163** | **179** | **141** | **179** | **165** | **150** |
| Large Towns ... ... | 162 | 167 | 164 | 181 | 152 | 182 | 167 | 176 |

ZYMOTIC DISEASES.—The 2,534 deaths from all causes included:—

| | | | | | |
|---|---|---|---|---|---|
| 75 | attributed to | Measles. | 90 | attributed to | Diphtheria. |
| 17 | ,, | Scarlet Fever. | 20 | ,, | Enteric Fever. |
| 35 | ,, | Whooping Cough. | 135 | ,, | Diarrhœa. |

The 372 deaths ascribed to these diseases corresponded to an annual death-rate of 2·1 per 1,000 persons living, as compared with 2·2 the death-rate in 1896, and with 2·3 the average rate in the 10 years, 1888-1897 inclusive. The death-rate from the chief zymotic diseases in the 33 large towns of England and Wales averaged 2·87 per 1,000 during the year 1897, ranging from 1·36 in Swansea, 1·39 in Halifax, 1·43 in Croydon, and 1·50 in Huddersfield, to 3·98 in Burnley, 4·02 in Bolton, 4·22 in Wolverhampton, 5·50 in Salford, and 5·64 in Preston.

The number of cases of infectious disease notified under the provisions of the Infectious Disease Notification Act was 1,583, as compared with 1,445 during the year 1896, and with 961 in the year 1895; the total amount paid by the Sanitary Authority for the notifications so received during 1897 was £228 13s.

Table XX. gives the death-rate per 1,000 from all causes, and from the chief zymotic diseases in the 10 years, 1887-96, and in 1897 in Cardiff and the 33 large towns.

## TABLE XX.

| | Ten Years—1887-1896. | | Year 1897. | |
|---|---|---|---|---|
| | Cardiff. | 33 Large Towns. | Cardiff. | 33 Large Towns. |
| All Causes .. .. .. | 19·0 | 20·6 | 14·9 | 19·1 |
| Small Pox .. .. .. | 0·02 | 0·02 | 0·00 | 0·00 |
| Measles .. .. .. | 0·45 | 0·62 | 0·44 | 0·55 |
| Scarlet Fever .. .. | 0·21 | 0·27 | 0·10 | 0 18 |
| Diphtheria .. .. .. | 0·27 | 0·29 | 0·53 | 0 31 |
| Whooping Cough .. .. | 0·49 | 0·55 | 0·21 | 0·41 |
| *Fever .. .. .. | 0·17 | 0 20 | 0·11 | 0·18 |
| Diarrhœa .. .. .. | 0·83 | 0·84 | 0·79 | 1·24 |

* Includes Enterie, Typhus and simple or ill-defined continued fever.

Im January, 1890, the Infectious Disease Notification Act of 1889 was adopted in this district. Since that date, therefore, it has been possible to keep a complete return of the number of cases of certain diseases coming to the knowledge of the Sanitary Authority by this means. The diseases which come under the operation of the Act are: Small Pox, Cholera, Diphtheria, Membranous Croup, Erysipelas, Scarlet Fever, Enteric Fever, Typhus Fever and Puerperal Fever. The following table gives the returns for the years 1890-97.

## TABLE XXI.

| | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 |
|---|---|---|---|---|---|---|---|---|
| Small Pox .. .. | .. | 9 | 5 | 4 | 10 | 1 | 45 | 7 |
| Diphtheria .. . | 63 | 67 | 155 | 462 | 326 | 229 | 296 | 512 |
| Croup .. .. .. | 9 | 3 | 9 | 17 | 17 | 19 | 10 | 4 |
| Scarlet Fever .. .. | 335 | 685 | 1,851 | 816 | 577 | 484 | 874 | 758 |
| Enteric Fever .. .. | 152 | 130 | 118 | 105 | 62 | 79 | 74 | 117 |
| Typhus Fever .. .. | .. | .. | .. | 41 | 1 | .. | 1 | .. |
| Erysipelas .. .. | 45 | 52 | 95 | 152 | 135 | 132 | 134 | 163 |
| Puerperal Fever .. .. | 4 | 10 | 12 | 24 | 19 | 17 | 21 | 12 |
| Total .. .. | 608 | 956 | 2,245 | 1,621 | 1,147 | 961 | 1,455 | 1,573 |

The method adopted in connection with this notification and with a view of checking the spread of disease is as follows:—On receipt of each notification by the Medical Officer of Health, an Inspector is sent to the infected house to make enquiries respecting the history of the case and, if necessary, to make arrangements for the removal of the patient to the Sanatorium. In each case report sheets are filled up, samples of which have been given in former reports. A system of inter-notification between the School Attendance Officer and the Medical Officer of Health has been adopted, which is a mutual advantage. In the one case it notifies to the Attendance Officers the existence of

infectious disease in certain houses, and in the other the Health Authorities occasionally become acquainted with cases which they otherwise would not have heard of. But the chief object of the system is to prevent the attendance at school of children from infected houses and to secure the co-operation of the School Attendance Officers in this preventive measure. By this means it is usually possible to check the spread of any infectious disease to which the Notification Act applies without having recourse to the closure of schools, and the more complete such co-operation, the less probability is there of such a severe measure being required. At the same time steps are taken independently by the Sanitary Authority for the prevention of the spread of infectious disease. Printed instructions are left at each infected house by the Inspector who visits it, and the attention of householders is called to their liabilities under the laws and regulations relating to infectious diseases and infection. The following forms are used for this purpose and in connection with school attendance. This system, however, does not entirely apply in the case of measles and of whooping cough, which do not come under the operation of the Notification Act. The arrangements made in these cases will be referred to later on in this report:—

### Precautions to be observed in cases of Infectious Disease.

*The expression "Infectious Disease" means any one of the following Diseases:—Small-Pox, Scarlet Fever, Typhoid Fever, Typhus Fever, Measles and Diphtheria.*

1. Where Infectious Disease exists in a house no child should be allowed to attend School during the time the illness is in the house and until after the disinfection has taken place. In the case of Scarlet Fever and Diphtheria one clear week must elapse from the date of disinfection at the termination of the case, by the Officers of the Sanitary Authority, before the child is allowed to attend School. In the case of Measles and Small-pox, the period must be extended to seventeen days.

2. The patient should if possible be at once removed to the Borough Sanatorium.

3. If treated at home the patient should be isolated from the rest of the inmates, except those who are in immediate attendance, and should be placed in a well-ventilated room at the top of the house. A sheet should be hung up outside the door of the sick room and kept wet with a solution of carbolic acid, ½-pint to a gallon of water, or some other recognised disinfectant.

4. All bed and body linen, as soon as removed from the sick person, and before being taken from the sick room, should be first put in a solution of carbolic acid of the above-named strength, or into some other disinfectant, remaining there for an hour, and afterwards boiled in water.

5. All discharges from the patient, especially if the disease be Small-pox, Scarlet Fever, or Typhoid Fever, should be received into vessels containing some suitable disinfectant, and should be removed from the sick room and disposed of without delay.

6. If the disease is Small-pox, any unvaccinated infant in the house should be at once vaccinated, and all adults and young persons over twelve years of age should be re-vaccinated.

7. The patient cannot be pronounced absolutely free from carrying infection until all peeling has entirely ceased in Scarlet Fever (seldom less than seven weeks from the onset of the disease), and until the crusts and scales have been removed in Small-pox, and the whole of the body has been well bathed. In all cases of infectious disease the patient should have one or more warm baths before putting on clean clothes.

8. The sick room should not be visited by any but those in attendance on the patient, as the clothing of the visitors is very liable to convey infection.

9. In case of death, the body should be completely enveloped in a sheet steeped in a strong solution of carbolic acid (1 pint to a gallon of water) placed in a coffin, with a pound or two of carbolic acid powder sprinkled over it, fastened down and buried without delay.

10. On the termination of a case, the sick room, the clothing, and everything with which the patient has come in contact, must be thoroughly disinfected; notice should be sent to the Medical Officer of Health, who will send an Inspector to superintend the process of disinfection.

11. Infected clothing, bedding, and other articles must be given to the Inspector, who will cause them to be removed to the public disinfecting apparatus, where they will be disinfected free of charge, after which they should be thoroughly washed at home. Infected clothing should not on any account, or under any pretence whatever, be sent to the laundress, and if clothes are received to wash, they should not be received until the house is pronounced free from infection.

12. Books obtained from the Free Library should be handed to the Disinfector before being returned.

Signed,

EDWARD WALFORD, M.D.,

*Medical Officer of Health.*

*Your attention is particularly directed to the following provisions of the Public Health Act, of the Infectious Disease (Prevention) Act, and of the Factory and Workshop Act, 1895, so far as they relate to the prevention of the spread of Infectious Diseases:—*

Any person who:

(1.) While suffering from any dangerous infectious disease wilfully exposes himself without proper precaution against spreading the said disorder in any street, public place, or vehicle, or enters any public conveyance without previously notifying to the driver that he is so suffering.

2. Being in charge of any person so suffering, or exposes such sufferer, or

3. Gives, lends, sells, or transmits, or exposes without previous disinfection, any bedding, clothing, rags, or other things which have been exposed to infection, shall be liable to a penalty not exceeding Five Pounds.

Every person who shall cease to occupy any house, room, or part of a house in which any person has, within six weeks previously, been suffering from any infectious disease without having such house, room, or part of a house, and all articles therein liable to retain infection disinfected to the satisfaction of a registered medical practitioner, as testified by a certificate signed by him, or without first giving to the owner of such house, room, or part of a house, notice of a previous existence of such a disease; and every person ceasing to occupy any house, room, or part of a house, and who on being questioned by the owner thereof, or by any person negotiating for the hire of such house, room, or part of a house, as to the fact of there having within six weeks previously been therein any person suffering from any infectious disease, knowingly makes a false answer to such question shall be liable to a penalty not exceeding Ten Pounds.

Any Local Authority, or the Medical Officer of any Local Authority generally empowered by the Authority in that behalf, may, by notice in writing, require the owner of any bedding, clothing, or other articles which have been exposed to the infection of any infectious disease, to cause the same to be delivered over to an Officer of the Local Authority for removal for the purpose of disinfection, and any person who fails to comply with such a requirement, shall be liable to a penalty not exceeding Ten Pounds.

If any occupier of a factory or workshop, or laundry, or of any place from which any work is given out, or any contractor employed by any such occupier, causes or allows wearing apparel to be made, cleaned or repaired in any dwelling-house or building occupied therewith, whilst any inmate of the dwelling-house is suffering from scarlet fever or small-pox, then, unless he proves that he was not aware of the existence of the illness in the dwelling-house, and could not reasonably have been expected to become aware of it, he shall be liable to a fine not exceeding Ten Pounds.

Signed,

J. L. WHEATLEY,

*Town Clerk.*

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Office,*

Town Hall, Cardiff,

.....189

To the School Attendance Officer.

Sir,—I beg to inform you that infectious disease, viz. .....exists at No.....and that children from this house have this day been excluded from.....School.....Department. They should not be allowed to return to School until a notice has been received from me that the house is free from infection.

Yours faithfully,

EDWARD WALFORD,

*N.B.—Please preserve this Notice.* *Medical Officer of Health.*

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Office,*

Town Hall, Cardiff,

.....189

To the School Attendance Officer.

Sir,—I beg to inform you that No..... ..... ..... is now free from infection and that children from this house may attend Schcol.

Yours faithfully,

EDWARD WALFORD,

*N.B.—Please preserve this Notice.* *Medical Officer of Health.*

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Office,*

Town Hall, Cardiff,

.....189

To the Head Teacher of.....

.....School .....Department.

Sir or Madam,—The following infectious disease, viz. :—.....

.....exists at No..... .....

No children from this house should be allowed to attend your School until a certificate has been obtained from the Medical Officer of Health stating that the house is free from infection.

Yours faithfully,

EDWARD WALFORD,

*Medical Officer of Health.*

*N.B.—You are particularly requested to preserve this Notice.*

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Office,*

Town Hall, Cardiff,

.....189

To the Head Teacher of.....

.....School .....Department.

Sir or Madam,—I beg to inform you that a child named.....

.....residing at.....

is suffering from an infectious disease, viz. :..... .....and therefore children from this house should not be allowed to attend school until a notice is received from me that the house is free from infection.

Yours faithfully,

EDWARD WALFORD,

*Medical Officer of Health.*

*N.B.—You are particularly requested to preserve this Notice as your Voucher for the exclusion of any children.*

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Office,*

TOWN HALL, CARDIFF,

.....189

To the Head Teacher of.....

.....School .....Department.

I hereby certify that the premises at No.....

.....have been disinfected, and that Children from this house may be allowed to return to School, on the.....day of.....189

EDWARD WALFORD,

*Medical Officer of Health.*

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Department,*

TOWN HALL, CARDIFF,

.....189

I hereby certify that the Premises at No.....

..... have been disinfected, and that Children from this house may be allowed to return to School.

EDWARD WALFORD.

*Medical Officer of Health.*

To Mr.....

CARDIFF URBAN SANITARY AUTHORITY.

*Medical Officer of Health's Office,*

TOWN HALL, CARDIFF,

.....189

Sir,—I have to inform you that.....

residing at.....and employed by you, is now suffering from an infectious disease and should not be allowed to return to your service without producing to you a Certificate signed by the Medical Officer of Health stating that the infected premises, &c., have been disinfected by the Sanitary Authority.

Yours faithfully,

To..... ...

EDWARD WALFORD.

.....

*Medical Officer of Health.*

**TABLE XXII.**—Analysis of Deaths in the Municipal Borough of Cardiff in the Registration Sub-districts, and in each Ward in the Borough during the Year 1897.

| LOCALITIES. | Population, 1897. | Area in Acres. | Persons per Acre. | Total Births. | Birth-rate. | Total Deaths. | Death-rate. | Deaths under One Year per 1,000 Births Registered. | Seven Chief Zymotic Diseases. | | Principal Zymotic Diseases. | | | | | | | | | | | | | | Phthisis. | | Diseases of Respiratory Organs. | | Tuberculosis. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Small Pox. | | Measles. | | Scarlatina. | | Diphtheria. | | Whooping Cough. | | Typhoid Fever. | | Typhus Fever. | | Diarrhœa. | | | | | | | |
| | | | | | | | | | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. | Deaths. | Death-rate. |
| Borough of Cardiff .. | 170,063 | 8,351 | 29·0 | 5,279 | 31·0 | 2,534 | 14·9 | 151 | 371 | 2·10 | .. | .. | 75 | 0·44 | 17 | 0·10 | 90 | 0·53 | 35 | 0·21 | 20 | 0·11 | .. | .. | 134 | 0·79 | 206 | 1·21 | 396 | 2·32 | 37 | 0·21 |
| West Cardiff Registration Sub-district — Canton Ward .. | 19,593 | 449 | 43·6 | 624 | 30·1 | 261 | 13·3 | 165 | 57 | 2·90 | .. | .. | 10 | 0·51 | 2 | 0·10 | 20 | 1·02 | 4 | 0·20 | .. | .. | .. | .. | 21 | 1·07 | 17 | 0·86 | 35 | 1·78 | 2 | 0·10 |
| West Cardiff Registration Sub-district — Riverside Ward .. | 18,732 | 313 | 59·8 | 505 | 26·9 | 224 | 11·9 | 142 | 36 | 1·92 | .. | .. | 3 | 0·16 | 1 | 0·05 | 12 | 0·64 | 5 | 0·26 | 4 | 0·21 | .. | .. | 11 | 0·58 | 17 | 0·90 | 32 | 1·70 | 1 | 0·05 |
| West Cardiff Registration Sub-district — Grangetown Ward | 19,631 | 1,905 | 10·3 | 820 | 41·7 | 285 | 14·5 | 128 | 48 | 2·34 | .. | .. | 10 | 0·50 | 1 | 0·05 | 16 | 0·81 | 8 | 0·40 | .. | .. | .. | .. | 13 | 0·66 | 21 | 1·06 | 51 | 2·59 | 5 | 0·28 |
| West Cardiff .. | 57,956 | 2,667 | 21·7 | 1,949 | 33·6 | 770 | 13·2 | 143 | 141 | 2·43 | .. | .. | 23 | 0·39 | 4 | 0·07 | 48 | 0·82 | 17 | 0·28 | 4 | 0·07 | .. | .. | 45 | 0·77 | 55 | 0·94 | 118 | 2·07 | 8 | 0·14 |
| Central Cardiff Registration Sub-district — South Ward .. | 10,706 | 519 | 20·6 | 260 | 24·2 | 186 | 17·3 | 192 | 23 | 2·14 | .. | .. | 5 | 0·46 | 1 | 0·09 | 3 | 0·27 | 5 | 0·46 | 2 | 0·18 | .. | .. | 7 | 0·64 | 13 | 1·21 | 29 | 2·80 | 2 | 0·18 |
| Central Cardiff Registration Sub-district — Central Ward .. | 13,668 | 473 | 28·8 | 268 | 19·6 | 195 | 14·2 | 201 | 20 | 1·46 | .. | .. | 5 | 0·36 | .. | . | 2 | 0·14 | .. | .. | .. | .. | .. | .. | 13 | 0·94 | 18 | 1·31 | 33 | 2·41 | 1 | 0·07 |
| Central Cardiff Registration Sub-district — Cathays Ward .. | 16,694 | 369 | 45·2 | 547 | 32·7 | 197 | 11·8 | 133 | 31 | 1·85 | .. | .. | 4 | 0·23 | .. | .. | 8 | 0·48 | 4 | 0·23 | 1 | 0·05 | .. | .. | 14 | 0·83 | 13 | 0·77 | 37 | 2·21 | 1 | 0·05 |
| Central Cardiff Registration Sub-district — Adamsdown Ward | 13,669 | 1,570 | 8·7 | 453 | 33·0 | 213 | 15·5 | 161 | 25 | 1·82 | .. | .. | 6 | 0·43 | .. | .. | 3 | 0·21 | 2 | 0·14 | .. | . | .. | .. | 14 | 1·01 | 19 | 1·38 | 37 | 2·70 | 2 | 0·14 |
| Central Cardiff .. | 54,767 | 2,931 | 18·7 | 1,528 | 27·7 | 791 | 14·7 | 163 | 99 | 1·80 | .. | .. | 20 | 0·36 | 1 | 0·01 | 16 | 0·27 | 11 | 0·20 | 3 | 0·05 | .. | .. | 48 | 0·85 | 63 | 1·16 | 136 | 2·48 | 6 | 0·10 |
| East Cardiff Registration Sub-district — Splott Ward .. | 16,366 | 1,454 | 12·1 | 577 | 35·2 | 199 | 12·1 | 143 | 36 | 2·19 | .. | .. | 15 | 0·91 | 1 | 0·06 | 1 | 0·06 | 1 | 0·06 | 1 | 0·06 | .. | .. | 17 | 1·03 | 16 | 0·97 | 30 | 1·83 | 2 | 0·12 |
| East Cardiff Registration Sub-district — Roath Ward .. | 15,083 | 766 | 19·7 | 452 | 29·9 | 190 | 12·5 | 141 | 18 | 1·19 | .. | .. | 8 | 0·53 | .. | .. | 2 | 0·13 | 4 | 0·13 | .. | .. | .. | .. | 4 | 0·26 | 11 | 0·72 | 39 | 2·58 | 2 | 0·13 |
| East Cardiff Registration Sub-district — Park Ward .. | 25,418 | 533 | 47·6 | 707 | 27·8 | 254 | 9·9 | 131 | 38 | 1·49 | .. | .. | 8 | 0·31 | .. | .. | 7 | 0·27 | 2 | 0·27 | 1 | 0·04 | .. | .. | 20 | 0·78 | 21 | 0·82 | 42 | 1·65 | 5 | 0·19 |
| East Cardiff .. | 56,867 | 2,753 | 20·6 | 1,736 | 30·5 | 643 | 11·5 | 138 | 92 | 1·62 | .. | .. | 31 | 0·58 | 1 | 0·01 | 10 | 0·17 | 7 | 0·12 | 2 | 0·03 | .. | .. | 41 | 0·72 | 48 | 0·83 | 111 | 1·95 | 9 | 0·14 |
| Infectious Diseases Hospital .. | .. | .. | .. | .. | .. | 30 | .. | .. | 30 | .. | .. | .. | .. | .. | 11 | .. | 15 | .. | .. | .. | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Union Workhouse .. | .. | .. | .. | 66 | .. | 182 | .. | .. | 6 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | . | .. | 4 | .. | .. | .. | .. | .. | 30 | .. | 22 | .. | 9 | .. |
| Infirmary .. | .. | .. | .. | .. | .. | 105 | .. | .. | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | .. | .. | 4 | .. | 7 | .. | 4 | .. |
| Seamen's Hospial .. | .. | .. | .. | .. | .. | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | .. | 2 | .. | 1 | .. |

The population in the above table is, in the case of the Borough, that given by the Registrar General, as the estimate to the middle of the year 1897. The populations of the Registration Sub-districts and Wards are estimated on the basis of the number of inhabited houses, allowing an average of 6·29 persons to each house.

**TABLE XXIII.**—Shews the number of Infectious Diseases reported under the Notification Act, and Deaths during each quarter in the year, 1897.

| | Small Pox. | | Cholera. | | Diphtheria. | | Croup. | | Erysipelas. | | Scarlet Fever. | | Typhoid Fever. | | Typhus Fever. | | Puerperal Fever. | | Relapsing Fever. | | Continued Fever. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. | Deaths. | Cases Reported. |
| First Quarter .. .. .. | .. | 6 | .. | .. | 18 | 91 | 1 | 3 | .. | 36 | 4 | 243 | 3 | 34 | . | .. | 1 | 4 | .. | .. | .. | .. |
| Second „ .. .. .. | .. | .. | .. | .. | 16 | 98 | 1 | .. | 1 | 38 | 8 | 163 | 4 | 14 | .. | .. | 1 | 3 | .. | .. | .. | 1 |
| Third „ .. .. .. | .. | .. | .. | .. | 17 | 88 | .. | .. | 2 | 37 | 3 | 166 | 5 | 32 | .. | .. | 2 | 2 | .. | .. | .. | 1 |
| Fourth „ .. .. .. | .. | 1 | .. | .. | 39 | 235 | 2 | 1 | .. | 52 | 2 | 186 | 8 | 37 | .. | .. | 1 | 3 | .. | .. | .. | 5 |
| Year 1897 .. .. | .. | 7 | .. | .. | 90 | 512 | 4 | 4 | 3 | 163 | 17 | 758 | 20 | 117 | .. | .. | 5 | 12 | .. | .. | .. | 8 |

**TABLE XXIV.**—The following Tables show the distribution of mortality from the Seven Chief Zymotic Diseases, from Phthisis, from Diseases of the Respiratory Organs, and from other causes, in each street in the Borough, during the year 1897.

CENTRAL WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Allen's arch | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Bridge and Little Bridge street | .. | 1 | .. | . | .. | .. | 1 | 1 | .. | 5 | 8 |
| Blackweir | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Baker's row | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Bute street and terrace | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 |
| Canal bank | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Clytha place | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Corbett road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Colum road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Charles street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Charlotte street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Castle street | .. | .. | .. | .. | .. | .. | .. | .. | . | 1 | 1 |
| Castle court | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| David street | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 3 |
| Davies court | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Duke street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Eisteddfod street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 5 | 6 |
| East terrace | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 |
| Edward street and terrace | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 7 | 8 |
| Ebenezer street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Frederick street | .. | .. | .. | 1 | .. | .. | .. | 1 | 5 | 8 | 15 |
| Gough street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| G.W.R. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Giles' court | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Havelock street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 4 | 5 |
| Green Garden court | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Homfray street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Glamorgan canal | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Hill's terrace | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | 4 | 6 |
| High street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Harris' court | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Jenkins' court | .. | .. | .. | .. | .. | .. | .. | . | .. | 1 | 1 |
| Love lane | .. | .. | .. | .. | .. | .. | .. | . | 2 | 2 | 4 |
| Little Frederick street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Masons' Arms court | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Millicent street | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 9 | 12 |
| Matthews' court | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Mary Ann street | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 | 6 |
| Nazareth house | .. | .. | .. | .. | .. | .. | 2 | 2 | 1 | 7 | 12 |
| North road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Park place | . | .. | .. | .. | .. | .. | 1 | . | .. | 3 | 4 |
| Paradise place | . | .. | .. | .. | .. | .. | .. | . | .. | 1 | 1 |
| Park grove | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | 3 |
| Pembroke terrace | . | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Park street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Queen street | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 3 | 5 |
| Quay street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Raven street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| River Taff | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Rodney street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Ruperra street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Scott street | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 3 | 5 |
| St. Mary street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | 6 |
| Stanley street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Station terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Spring Gardens court | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| St. Andrew's place and crescent | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Thomas court | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Tredegar street | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | 6 | 9 |
| Union street | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | 2 | 5 |
| Wood street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 |
| Working street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 3 |
| Windsor place | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Westgate street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Wharton place | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Total | .. | 5 | .. | 2 | .. | .. | 13 | 18 | 33 | 124 | 195 |

## SOUTH WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Angelina street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 6 | 7 |
| Alice street | .. | .. | .. | .. | 1 | 1 | .. | 1 | 1 | 1 | 5 |
| Adelaide street and place | .. | 2 | .. | .. | 1 | .. | .. | .. | .. | 3 | 6 |
| Bute street | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | 12 | 15 |
| Bute buildings | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Bute crescent | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Bute esplanade | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Christina street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 9 | 10 |
| Crichton street and place | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | 4 | 9 |
| Canal bank | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Canal | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 |
| Clarence place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Canal parade | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Dudley street and place | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 2 | 5 |
| Exchange buildings | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| Eleanor street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Evelyn street | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 5 | 9 |
| Frances street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |
| George street | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | 3 |
| Hannah street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Harrowby street | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 3 | 5 |
| Hodges row | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Herbert street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 5 | 6 |
| Hunter street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Harpur street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Henry street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Hamadryad hospital | .. | .. | .. | .. | .. | .. | .. | 6 | 2 | 5 | 13 |
| James street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | 4 |
| John street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 2 |
| Louisa street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Lansdown terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Loudoun square | .. | .. | .. | .. | .. | .. | .. | . | .. | 1 | 1 |
| Mount Stuart square | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Mount Stuart dry dock | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Margaret street | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 4 | 6 |
| Maria street | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 5 | 6 |
| North Church street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 |
| Nelson street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Old Sea lock | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Penarth road and terrace | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 2 | 3 |
| Peel street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Patrick street | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Pomeroy terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Railway crossing | .. | .. | .. | .. | .. | .. | .. | .. | . | 1 | 1 |
| South Church street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |
| Sophia street | .. | .. | 1 | .. | .. | 1 | 1 | 1 | 2 | 4 | 10 |
| Stuart street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | 5 |
| South William street | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | 5 | 10 |
| Tressillian terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Timber float | .. | .. | .. | .. | .. | .. | .. | .. | | 1 | 1 |
| Windsor esplanade | .. | .. | .. | .. | .. | .. | . | .. | .. | 1 | 1 |
| West wharf | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| West Church street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| West Bute street | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Total | .. | 5 | 1 | 3 | 5 | 2 | 7 | 19 | 29 | 128 | 199 |

## CATHAYS WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Allen's Bank Road | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Barracks | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 4 |
| Cairns street | .. | 1 | .. | 2 | 2 | .. | .. | 1 | 3 | 9 | 18 |
| Cogan terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Coburn street | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 4 | 8 |
| Crwys road | .. | .. | .. | 1 | .. | .. | .. | .. | 3 | 4 | 8 |
| Cathays terrace | .. | .. | .. | .. | .. | .. | 1 | 2 | 4 | 9 | 16 |
| Cranbrook street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Catherine street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Dalton street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Daniel street | .. | .. | .. | .. | .. | 1 | 1 | .. | 2 | 5 | 9 |
| Darran street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 2 | 3 |
| Flora street | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 5 | 7 |
| Florentia street | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | 3 |
| George street | .. | .. | .. | 1 | 1 | .. | .. | .. | 1 | 3 | 6 |
| Gladys street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Glynrhondda street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Hirwain street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |
| Harriett street and place | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | 5 |
| Llanbleddian gardens | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Llandough street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Llantrisant street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Letty street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Llantwit street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Minny street | .. | .. | .. | .. | .. | .. | 1 | .. | . | 6 | 7 |
| Manor street | .. | .. | .. | .. | . | .. | .. | .. | .. | 1 | 1 |
| Miskin street | .. | .. | .. | .. | .. | . | .. | .. | 1 | 3 | 4 |
| Minister street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| May street | .. | .. | .. | .. | 1 | . | .. | 1 | .. | 1 | 5 | 8 |
| Merthyr street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Norman street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Richards street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 5 | 7 |
| Rhymney terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Ruthin gardens | . | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 |
| Robert street | .. | .. | 2 | .. | .. | .. | .. | 1 | .. | 2 | 2 | 7 |
| Senghenydd road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| Spencer street | . | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | 3 |
| Salisbury road | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | 1 | 5 |
| Thesiger street | .. | .. | .. | .. | 2 | 1 | .. | 2 | .. | 1 | 2 | 8 |
| Talygarn street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Treherbert street | .. | .. | .. | .. | .. | .. | .. | .. | .. | . | 1 | 1 |
| Treorky street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Upper George street | .. | .. | .. | .. | . | .. | .. | 1 | 1 | 1 | 2 | 5 |
| Woodville road | .. | . | .. | .. | .. | .. | .. | 1 | .. | .. | 13 | 14 |
| Whitchurch place | .. | .. | .. | .. | .. | .. | . | .. | .. | .. | 1 | 1 |
| Whitchurch road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Weddal farm | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Total | .. | .. | 4 | .. | 8 | 4 | 1 | 14 | 13 | 37 | 116 | 197 |

## PARK WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alfred street | .. | 2 | .. | .. | .. | .. | .. | 1 | .. | 2 | 5 |
| Albany road | .. | .. | .. | . | .. | .. | 1 | 1 | 1 | 4 | 7 |
| Arran street | .. | . | .. | .. | .. | .. | 1 | .. | 4 | 1 | 6 |
| Angus street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 6 |
| Arabella street | .. | .. | .. | 1 | .. | .. | 4 | 1 | 1 | 10 | 17 |
| Braevil street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Bangor road | .. | .. | .. | .. | .. | .. | .. | . | .. | 2 | 2 |
| Byron street | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | 2 | 5 |
| Bedford street and place | .. | .. | .. | .. | . | .. | 3 | 2 | 1 | 4 | 10 |
| Castle road | .. | .. | .. | .. | 1 | .. | .. | .. | 2 | 6 | 9 |
| Cyfarthfa street | .. | .. | .. | 1 | .. | . | . | 1 | 3 | 8 | 13 |
| Crofts street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Clive place | .. | . | .. | 1 | .. | .. | .. | .. | 1 | .. | 2 |
| Convent | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Donald street | .. | .. | .. | .. | .. | .. | 4 | 1 | 2 | 4 | 11 |
| Diana street | .. | .. | 2 | .. | 1 | .. | .. | .. | 1 | 3 | 7 |
| Elm street | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 4 | 6 |
| Essich street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Glenroy street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Inverness place | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 7 | 9 |
| Kincraig street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 5 | 6 |
| Keppoch street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | 4 |
| Leason terrace | .. | .. | .. | . | .. | .. | .. | .. | .. | 1 | 1 |
| Lily street | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | 2 | 5 |
| Lochaber street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 |
| Montgomery street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Moy road | .. | 1 | .. | 1 | .. | .. | 1 | .. | 2 | 4 | 9 |
| Milton street | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | 6 | 11 |
| Mackintosh place | .. | .. | .. | .. | .. | .. | .. | . | 1 | 8 | 9 |
| Ninian road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Oxford street | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 2 | 6 |
| Penlline street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Parade | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Plasnewydd road and place | .. | 1 | .. | .. | 1 | .. | .. | 1 | 2 | 1 | 6 |
| Russell street | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 2 |
| Rose street | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 5 | 7 |
| Richmond road and crescent | .. | .. | .. | 1 | .. | . | .. | .. | 1 | 4 | 6 |
| St. Peter street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 |
| Strathnairn street | .. | 1 | .. | 1 | .. | .. | .. | 1 | 2 | 2 | 7 |
| Shakespeare street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 5 | 6 |
| Treharris street | .. | 1 | .. | . | .. | .. | 1 | .. | 1 | 11 | 14 |
| Talworth street | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 6 | 8 |
| Vere street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Wellfield road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Walk | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 4 | 5 |
| Wordsworth avenue | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Woodland place | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Total | .. | 8 | .. | 7 | 2 | 1 | 20 | 21 | 42 | 153 | 254 |

## ADAMSDOWN WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ascog street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Augusta street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Adam street | .. | .. | .. | .. | .. | .. | 3 | 2 | 3 | 8 | 16 |
| Adamsdown square | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Bute Railway | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Buzzard street | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 2 | 4 |
| Bristol Channel | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Cycle street.. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 3 | 4 |
| Comet street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | 3 |
| Cumnock place and terrace | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Clifton street | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | 4 |
| Cumrae street and place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Constellation street | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 | 4 |
| Copper street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Duffryn street | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | 4 |
| Davis street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| East Dock | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 6 |
| Eclipse street | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 3 | 5 |
| Flat Holm | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Ellen street | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 2 | 5 |
| Fitzalan place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Galston street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 |
| Garth street and court | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| G. W. Railway | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Glossop terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Graving Dock | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Gwendoline street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Gaol lane | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| H.M. Prison | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Howard place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Inchmarnock street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Ivor street and place | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Iron street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Infirmary | .. | .. | .. | .. | .. | 3 | .. | 4 | 7 | 91 | 105 |
| Kingarth street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Kenycroy street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Kilcattan street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Kite street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Longcross street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Metal street | .. | .. | .. | .. | .. | .. | 1 | ... | .. | 3 | 4 |
| Lead street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Moon street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 3 |
| Lady Margaret terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Moira street, place, and terrace | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 7 | 9 |
| Meteor street | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 2 |
| Morgan street | .. | .. | .. | .. | .. | ... | .. | 1 | .. | .. | 1 |
| North William street | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | 3 | 9 |
| North Luton place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Newport Road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Orbit street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 3 |
| Piercefield place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Pellet street | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 2 |
| Planet street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Platinum street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Pendoylan street | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 5 | 7 |
| Rosemary street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Roland street | .. | .. | .. | .. | .. | .. | ... | .. | .. | 4 | 4 |
| Roath Dock | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Roath Pontoon | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Sanquahar street | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 3 | 5 |
| Sandon place | .. | 1 | .. | .. | .. | .. | 1 | .. | 3 | 3 | 8 |

## ADAMSDOWN WARD—Continued.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| System street | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 2 |
| Sun street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 2 |
| Taff street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 3 | 4 |
| Tin street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Tyndall street | .. | .. | .. | .. | .. | .. | .. | 3 | 2 | 4 | 9 |
| Thomas street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Thomas court | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Victoria street | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | 3 | 5 |
| Windsor road | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | 6 |
| West Dock | .. | .. | .. | .. | .. | .. | . | .. | .. | 5 | 5 |
| West Luton place | .. | .. | .. | . | .. | .. | .. | .. | 1 | .. | 1 |
| Zinc street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Total | .. | 6 | .. | 3 | 2 | 3 | 14 | 23 | 44 | 223 | 318 |

## RIVERSIDE WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ann street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Beauchamp street | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | 4 | 7 |
| Brook street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 3 | 4 |
| Blackstone street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 3 | 4 |
| Berthwin street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Coldstream terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Cowbridge road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Craddock street | .. | .. | . | .. | . | 1 | 2 | .. | 1 | 8 | 12 |
| Clare road | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 3 | 5 |
| Cathedral road | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | 6 | 8 |
| Despencer Gardens | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| Dyfrig street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| De Burgh street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Dogo street | .. | .. | . | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| East street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Eldon road | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 8 | 11 |
| Fitzhammon Embankment | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Gloucester street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Green street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |
| Halket street | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 7 | 10 |
| Iestynian avenue | .. | .. | . | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Hamilton street | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 4 | 5 |
| Kyveilog street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Kings road | . | .. | . | 2 | .. | .. | .. | .. | 2 | 9 | 13 |
| Lewis street | .. | .. | .. | . | .. | .. | .. | .. | .. | 3 | 3 |
| Mandeville place | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Mark street | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 2 |
| Machen place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| North Morgan street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Neville street and place | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 1 | 3 |
| Plantagenet street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Pontcanna avenue and place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Picton place | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 |
| Pitman street | .. | .. | . | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Plasturton avenue and place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Plasturton gardens | .. | 1 | .. | .. | .. | .. | .. | 1 | . | 2 | 4 |
| Rennie street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Ryder street | .. | .. | . | .. | .. | .. | .. | .. | .. | 3 | 3 |

## RIVERSIDE WARD—Continued.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rolls street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Rawden place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Smeaton street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Severn road | .. | .. | .. | 1 | 2 | .. | .. | . | 2 | 6 | 11 |
| South Morgan street | .. | .. | .. | 2 | .. | .. | .. | .. | .. | 2 | 4 |
| Stephenson street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Talbot street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | 3 |
| Telford street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Tudor road | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 | .. | 4 |
| Trevethick street | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | 3 |
| Union Workhouse | .. | .. | 1 | 1 | .. | 4 | .. | 30 | 22 | 124 | 182 |
| Wellington street | .. | .. | .. | .. | .. | .. | 1 | 1 | 9 | 10 | 21 |
| Wells street | .. | .. | 1 | .. | .. | .. | 1 | .. | 2 | 2 | 6 |
| William street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Wyndham crescent | .. | .. | .. | .. | .. | .. | 2 | 2 | 1 | 4 | 9 |
| Wyndham road | .. | .. | .. | .. | 1 | .. | .. | 2 | 1 | 1 | 5 |
| Wyndham place | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 2 |
| Wyndham street | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 4 | 6 |
| Westbourne crescent | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Total | .. | 4 | 1 | 13 | 5 | 8 | 11 | 47 | 54 | 263 | 406 |

## CANTON WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlas road and place | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 3 | 4 |
| Aldsworth road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Anglesey street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Alexandra road | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 3 |
| Alpha place | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Albert street | .. | .. | .. | 1 | .. | .. | 2 | 1 | 1 | 3 | 8 |
| Bassett street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Brecon street | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | 1 | 4 |
| Beda street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 3 |
| Carmarthen street | .. | .. | .. | .. | 1 | .. | .. | 1 | 1 | 2 | 5 |
| Clive road | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 4 | 10 |
| Commercial street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Chancery lane | .. | 1 | .. | .. | .. | .. | .. | 2 | 1 | 1 | 5 |
| Cowbridge road | .. | .. | .. | 1 | .. | .. | 1 | 1 | 2 | 11 | 16 |
| Cardigan street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Conybeare road | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 2 |
| Conway road | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 2 | 5 |
| Dulwich house | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Daisy street | .. | 1 | 1 | .. | .. | .. | 1 | .. | 2 | 7 | 12 |
| Eldon road | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | 1 | 6 |
| Ethel street | .. | 1 | .. | 1 | .. | .. | 2 | 3 | 1 | 10 | 18 |
| Egerton street | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 2 |
| Forrest road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Glynne street | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 2 | 3 |
| Glamorgan street | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | 5 | 8 |
| Harvey street | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 2 | 4 |
| Ivy street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Gladstone crescent | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Great Western Railway | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Gray street .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | 4 | 9 |
| Kingsland road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Leckwith road | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 5 | 8 |

## CANTON WARD—Continued.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lyndhurst street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 |
| Lyttleton street | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 3 | 5 |
| Llandaff road | .. | .. | .. | 2 | .. | .. | .. | 1 | .. | 6 | 9 |
| Loftus street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Lionel road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Lincoln street | .. | .. | .. | 2 | 1 | .. | .. | .. | .. | 2 | 5 |
| Mortimer road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Llanfair road | .. | .. | .. | 1 | .. | . | .. | .. | .. | 1 | 2 |
| Nottingham street | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| Norfolk street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Market road | .. | .. | .. | 1 | .. | . | .. | .. | .. | 1 | 2 |
| Nesta road .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | 2 | 5 |
| Picton place | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 2 |
| Penllyn road | .. | .. | .. | .. | .. | .. | . | .. | .. | 2 | 2 |
| Pontcanna terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Parry street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Penypeel road | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 2 |
| Pembroke road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |
| Rolls street | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | 3 |
| Railway terrace | .. | .. | .. | .. | .. | .. | . | .. | .. | 1 | 1 |
| Rectory road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Radnor road | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | 5 |
| Romilly road and crescent | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 6 | 7 |
| Severn road | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 7 | 8 |
| Stacey terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Stag terrace | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 3 |
| Springfield place | .. | .. | 3 | 1 | .. | .. | .. | .. | . | 3 | 7 |
| Thornhill street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Tintern street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Theobald street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Tuberville place | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 2 |
| Wells street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 3 | 4 |
| Wellington street | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | 3 | 6 |
| Westbury terrace | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Total .. | .. | .. | 10 | 2 | 20 | 4 | .. | 21 | 17 | 35 | 152 | 261 |

## ROATH WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arthur street | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Albany road | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Bradley street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Bertram street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 6 |
| Blanche street | .. | .. | .. | .. | .. | . | .. | .. | 1 | 1 | 2 |
| Beresford road | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 2 | 5 |
| Broadway | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 10 | 14 |
| Crofts street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Cecil street | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 | 5 | 9 |
| Clifton street | .. | .. | .. | .. | 1 | .. | .. | 1 | 1 | 3 | 6 |
| Cottrell road | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 7 | 9 |
| Claude road | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 2 |
| Cyfarthfa street | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 2 |
| Diamond street | .. | . | .. | .. | .. | .. | .. | .. | 2 | 6 | 8 |
| Emerald street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | 6 |
| Elm street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Fox street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Harold street | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 | 2 | 6 |

ROATH WARD—Continued.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Helen street .. .. .. | .. | 4 | .. | .. | .. | .. | .. | .. | 3 | 3 | 10 |
| Nora street .. .. .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 6 | 9 |
| Newport road .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 | 9 |
| Oakfield street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |
| Penylan road .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Partridge road .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Pearl street and place .. . .. | .. | 2 | .. | .. | .. | .. | .. | 1 | 4 | 11 | 18 |
| Ruby street.. .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 5 | 8 |
| Richards terrace .. .. .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | 5 | 9 |
| Roath brook .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Stacey road .. .. .. | .. | 2 | .. | .. | .. | .. | .. | .. | 1 | 6 | 9 |
| Tyler street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Theodora street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 5 | 7 |
| Topaz street .. .. .. | .. | .. | .. | .. | 2 | .. | .. | 1 | 1 | 3 | 7 |
| Spring Gardens place .. .. .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | 3 |
| Wellfield road ... .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Total .. .. .. | .. | 8 | .. | 2 | 4 | .. | 4 | 11 | 39 | 122 | 190 |

GRANGETOWN WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Avoca place .. .. .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 2 |
| Andrews' terrace .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Allerton street .. .. .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 3 | 4 |
| Amherst street .. .. .. | .. | 1 | .. | .. | .. | .. | .. | 2 | .. | 5 | 8 |
| Blaenclydach street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Bromfield street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Bradford street .. .. .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| Bishop street .. .. .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | 1 | 3 |
| Brick Pond.. .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Bromsgrove street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Bedwas street .. .. .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 2 |
| Corporation road .. .. .. | 1 | .. | .. | .. | .. | .. | 1 | 1 | 1 | 5 | 9 |
| Clive street .. .. .. | .. | .. | .. | 1 | .. | .. | 1 | 1 | 2 | 5 | 10 |
| Clarence road and terrace .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Compton street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Cornwall road .. .. .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 4 | 6 |
| Clare road .. .. .. | .. | .. | .. | 2 | 1 | .. | 2 | .. | 3 | 6 | 14 |
| Coedcae street .. .. .. | 1 | .. | .. | .. | .. | .. | 2 | .. | .. | 2 | 5 |
| Cymmer street .. .. .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | 1 | 3 |
| Court road .. .. .. | 1 | .. | .. | .. | .. | .. | 2 | 1 | 1 | 3 | 8 |
| Chester street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Cambridge street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Dorset street and place .. .. .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | 3 |
| Davies place .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Devon street and place .. .. .. | .. | .. | .. | .. | .. | . | .. | .. | 1 | .. | 1 |
| Durham street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Earle street .. .. .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 3 | 5 |
| Ferry road .. .. .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 3 |
| Forrest street .. .. .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | 2 |
| Fairview terrace .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Ferndale street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Grange Gardens .. .. .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 3 |
| Holmesdale street .. .. .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 8 | 9 |
| Hewell street .. .. .. | .. | .. | .. | 1 | .. | .. | 1 | 3 | 2 | 4 | 11 |
| Havelock place .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Hereford street .. .. .. | .. | .. | .. | 1 | 1 | .. | 1 | .. | 1 | .. | 4 |
| Kent street .. .. .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 2 | 5 | 9 |
| Knole street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Llanmaes street .. .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 |

## GRANGETOWN WARD—Continued.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ludlow street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Lucknow street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Monmouth street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Madras street | .. | .. | .. | .. | .. | 1 | .. | 1 | 3 | 4 | 9 |
| Llanbraddach street | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | 4 |
| Newport street | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 5 | 7 |
| North street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| North Clive street | .. | .. | .. | .. | .. | . | .. | .. | 2 | 1 | 3 |
| Oakley street | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 3 | 4 |
| Penhevad street | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 5 | 7 |
| Penarth road | .. | .. | .. | 1 | .. | .. | .. | 3 | 1 | 10 | 15 |
| Pentrebane street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Paget street | .. | .. | 1 | .. | .. | .. | .. | 1 | 2 | 4 | 8 |
| Rutland street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 4 |
| Redlaver street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 |
| Rookwood street | .. | .. | .. | .. | 1 | .. | . | .. | .. | 1 | 2 |
| Sevenoaks street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| St. Fagans street | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 3 | 5 |
| Somerset street | .. | .. | 1 | .. | 1 | .. | .. | 1 | 3 | 3 | 9 |
| Stoughton street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | 5 |
| Saltmead road | .. | .. | .. | .. | 2 | .. | .. | .. | 2 | 4 | 8 |
| Stockland street | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 5 | 7 |
| Sanatorium | .. | .. | .. | 11 | 15 | .. | 4 | .. | .. | .. | 30 |
| Tynant street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Thomas street | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 4 |
| Virgil street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Van street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Warwick street | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 2 | 3 |
| River Taff | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Total | .. | .. | 10 | 12 | 31 | 8 | 4 | 13 | 21 | 51 | 165 | 315 |

## SPLOTT WARD.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aberdovey street | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | 3 | 6 |
| Adeline street | .. | .. | 2 | .. | .. | .. | .. | 1 | 1 | 3 | 6 | 13 |
| Aberystwith street | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | 3 |
| Burnaby street | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 2 | 2 | 5 |
| Bridgend street | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | 4 | 7 |
| Bute Gas Works | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Cameron street | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 |
| Coveny street | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 4 | 6 |
| Caerphilly street | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | 5 |
| Cornelia street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 4 | 5 |
| Carlisle street | .. | .. | 1 | .. | .. | .. | .. | .. | 3 | 2 | 9 | 15 |
| Eyre street .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | 5 |
| Enid street .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Elaine street | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Florence street | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 |
| Habershon street and place | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | 1 | 4 | 8 |
| Howard street and place | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Hinton street | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 |
| Janet street | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | 3 | 6 |
| Layard street | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | 5 |
| Llanelly street | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 4 | 6 |
| Moorland road | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | 1 | 3 |

SPLOTT WARD--Continued.

| NAME OF STREET. | Small-pox. | Measles. | Scarlet Fever. | Diphtheria. | Whooping Cough. | Fever. | Diarrhœa. | Phthisis. | Respiratory Diseases. | Other Causes. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Marion street .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Milford street .. .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 3 | 7 |
| Menelaus street .. .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | .. | 2 | 5 |
| Ordell street .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Pengam farm .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Portmanmoor road .. .. | .. | .. | .. | 1 | 1 | .. | .. | 2 | 1 | 5 | 10 |
| Pontypridd street .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 |
| Railway street .. .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 4 | 14 | 20 |
| Swinton street .. .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Sanquahar street .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Seymour street .. . | .. | 1 | .. | .. | | .. | 1 | 1 | 1 | .. | 4 |
| Splott road .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Singleton road .. .. | . | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Swansea street and terrace .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 5 | 7 |
| Tenby street .. .. | .. | .. | .. | .. | .. | .. | 3 | .. | .. | 2 | 5 |
| Walker road .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 |
| Wimborne street .. .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | 4 |
| Wilson street .. .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 |
| Total .. .. | .. | 15 | 1 | 1 | 1 | 1 | 17 | 16 | 30 | 117 | 199 |

SMALL POX.—No death was registered from this disease during the year. A slight outbreak, which was easily controlled, occurred in the first quarter of the year. Six inmates of one of the hotels in the town contracted Small Pox from a visitor who apparently had the disease in such a very mild form that it was not at the time recognized. All the persons attacked were at once removed to the Small Pox Hospital, and those who had come into contact with them were re-vaccinated. No further spread of the infection occurred. Towards the end of December the Master of a vessel bound to Newport came ashore and feeling unwell consulted the Resident Medical Officer of the "Hamadryad" Hospital Ship, who found the man to be suffering from Small Pox. He was removed to the Hospital, and, fortunately, did not convey the infection to anyone.

WHOOPING COUGH.—Thirty-five deaths were registered from Whooping Cough during the year, as compared with 128 during the year 1896. The deaths from this disease corresponded to an annual death-rate of 0·21 per 1,000, as compared with 0·41, the average rate in the 33 large towns of England and Wales. The average annual death rate from Whooping Cough in the 10 years 1887-96 was 0·49 per 1,000 in Cardiff, and 0·55 in the large towns for the same period. Of the total number of deaths from this disease 22, or 62·8 per cent. were amongst children under one year of age.

SCARLET FEVER.—Seventeen deaths were registered from Scarlet Fever, as compared with 28 in the preceding year. The deaths were equivalent to an annual death-rate of 0·10 per 1,000, being 0·08 below the average rate in the 33 large towns. In these towns the death-rate from Scarlet Fever ranged from 0·04 per 1,000 in Preston and Bradford to 1·77 in Bolton, and 2·76 in Huddersfield. The average annual death-rate from scarlet fever during the 10 years, 1887-96, was 0·21 per 1,000 in Cardiff, and 0·27 per 1,000 in the large towns for the same period.

The total number of cases of Scarlet Fever notified within the borough and mortality since the adoption of the Infectious Disease Notification Act, 1889, was as follows:—

| Year. | Cases Notified. | Deaths. | Mortality per cent. of Cases Notified. |
|---|---|---|---|
| 1890 ... | 335 ... | 19 ... | 5·6 |
| 1891 ... | 685 ... | 35 ... | 5·0 |
| 1892 ... | 1,851 ... | 87 ... | 4·7 |
| 1893 ... | 816 ... | 39 ... | 4·7 |
| 1894 ... | 577 ... | 8 ... | 1·3 |
| 1895 ... | 484 ... | 8 ... | 1·6 |
| 1896 ... | 874 ... | 28 ... | 3·2 |
| 1897 ... | 758 ... | 17 ... | 2·2 |

With respect to the season of the year, the relation of notifications and deaths was as follows:-

| | No. of Notifications. | No. of Deaths. | Mortality per cent. |
|---|---|---|---|
| First Quarter ... ... | 243 | 4 | 1·6 |
| Second Quarter ... ... | 163 | 8 | 5·0 |
| Third Quarter ... ... | 166 | 3 | 1·8 |
| Fourth Quarter ... ... | 186 | 2 | 1·0 |

Of the 17 deaths from Scarlet Fever 13, or 76 per cent., were amongst children under five years of age.

Of the total number of cases notified, 253 were amongst children under five years of age, amongst whom the proportion of deaths was 5·01 per cent., whilst the mortality of the 505 cases over five years of age was 0·7 per cent.

Three hundred and eighty-five cases, or 50·7 per cent. of those notified were removed to the Borough Hospital for Infectious Diseases.

The proportion of cases removed to the hospital has therefore steadily increased, being at the rate of 31 per cent. in 1894, 43 per cent. in 1895, and 48 per cent. in 1896.

The local incidence of the disease was in each quarter of the year as follows, as shown by the notifications in each of the Registration Sub-Districts:—

| | 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|---|---|---|---|---|
| West Cardiff ... ... | 135 | 91 | 104 | 118 |
| Central Cardiff ... | 46 | 21 | 18 | 30 |
| East Cardiff ... ... | 62 | 51 | 44 | 38 |

For the whole year the proportion of cases notified to the population in each Registration Sub-District was as follows:—

| Registration Sub-District. | Per 1,000 of the Estimated Population. |
|---|---|
| West Cardiff ... ... ... ... | 7·6 |
| East Cardiff ... ... ... ... | 3·4 |
| Central Cardiff ... ... ... ... | 1·8 |

MEASLES.—Seventy-five deaths were registered from measles as compared with 39 in the previous year. The deaths corresponded to an annual death-rate of 0·44 as compared with 0·55 the average rate in the 33 large towns. The average death-rate from measles during the 10 years 1887-1896 was 0·45 in Cardiff and 0·62 in the large towns.

The mortality from measles varied in the several quarters of the year as follows:—

| | | |
|---|---|---|
| First Quarter ... ... | 0·64 | Per 1,000 persons living |
| Second Quarter ... ... | 0·85 | ,, ,, |
| Third Quarter ... ... | 0·09 | ,, ,, |
| Fourth Quarter ... ... | 0·18 | ,, ,, |

Measles is a disease which is more particularly fatal in early life, seventy-one out of a total of seventy-five deaths being amongst children under five years of age. From the above it will be seen that although the death-rate from measles in Cardiff is below the average in large towns, this disease is still one the most fatal amongst the common infectious diseases of childhood.

During the past year the mortality from measles amongst persons under five years of age was at the rate of 30·7 per 1,000 persons living at that age, whereas the death-rate from scarlet fever was 5·7 at the same age period.

Preventive measures are not so successful therefore in arresting the spread of measles as they are in the case of scarlet fever. The difficulties connected with the prevention of measles are great, more particularly in large towns where the opportunities for inter-communication between the sick and healthy are much more abundant than in rural districts. Doubtless, therefore, the ever-increasing density of population in our large towns has been an important factor in the increased mortality from this disease.

The Returns of the Registrar-General show that whereas in the 10 years 1881-90 there was, as compared with the preceding 10 years in England and Wales, a decrease of mortality from all causes at the rate of 2192 per million persons living, there was an increase in the mortality from measles of 62 per million, and that the average death-rate from measles during the above decennium was at the rate of 626 per million in the large towns, as compared with 329, the average rate in Rural England for the same period.

The following figures show the relation of the measles death-rate to the scarlet fever death-rate in England and Wales and in Cardiff during past years :—

England and Wales.- Death-rate per million persons living from measles and scarlet fever:

| | 1871-75. | 1876-80. | 1881-85. | 1886-90. | 1891-95. |
|---|---|---|---|---|---|
| Measles ... ... | 373 | 384 | 413 | 468 | 407 |
| Scarlet fever ... | 758 | 679 | 435 | 240 | 182 |

Cardiff.—Death-rate per million persons living from measles and scarlet fever:

| | 1878-83. | 1884-89. | 1890-95. | 1896. | 1897. |
|---|---|---|---|---|---|
| Measles ... ... | 243 | 841 | 397 | 239 | 440 |
| Scarlet fever ... | 410 | 389 | 354 | 172 | 100 |

Both measles and scarlet fever are highly infectious diseases, and their spread depends greatly on the facilities of communication between the sick and the healthy. Increasing density of population would, therefore, have the same tendency to favour the spread of disease in both cases. But whereas two very important preventive measures have been almost universally applied in the case of scarlet fever, they have not been found practicable in the case of measles. The compulsory notification, in conjunction with the isolation in hospital, of cases of scarlet fever have probably contributed more than anything else to the decrease of this disease during recent years. It becomes, therefore, a matter of grave consideration for the Sanitary Authority whether these or any other efficient measures can be adopted with a view of checking the spread of measles. With regard to the compulsory notification of measles, this measure has been adopted by very few of the authorities of large Urban Districts, and in some of these it has been discarded after a short trial, probably on the grounds of the heavy expenditure being out of all proportion to the advantages.

For it must be remembered that, although the mortality from measles is relatively high in proportion to the population, it is relatively low in proportion to the number of persons attacked with the disease. The expense, therefore, in notification fees, if measles were added to the list of notifiable diseases, would probably exceed, for measles alone, that now incurred on behalf of all the other notifiable diseases together, and, moreover, an addition to the staff of Inspectors would be

necessary in order to deal with the increased number of cases reported. Besides expense, other reasons may be given against the compulsory notification of measles; generally these are to the following effect:—

(1.) That as a considerable proportion of the cases of measles which occur are not attended by medical men, the notification from this source would be correspondingly imperfect, and the information to the Sanitary Authority, very incomplete.

(2.) That even in those cases which are attended by medical men, the notification would come too late to be of service, as measles is infective some days before the characteristic rash appears and before the real nature of the disease can be ascertained.

(3.) That the systematic removal of cases of measles to a hospital would necessitate a very large increase in hospital accommodation, but without which one of the chief advantages of notification would be lost.

Against these objections it may be urged that there is an advantage in having additional information, however incomplete; that further precautions can be taken by the Sanitary Authority in the way of checking the attendance at school of children from infected houses; and in securing better isolation and treatment of the sick, and finally in the disinfection of infected houses and articles of clothing, &c.

Having regard to these facts, it is for the Sanitary Authority to decide whether they will be justified in adding measles to the list of diseases coming under the operation of the Infectious Disease Notification Act.

In the meantime, as a modification of the above plan, I would suggest that an arrangement might be made with the District Medical Officers of the Cardiff Union for supplying information of new cases of measles coming under their care. This arrangement need not, I think, add much to the present expense of notification and would be of value to the Sanitary Authority. This, together with the weekly returns, which are now regularly forwarded by the School Attendance Officer, would supply a useful amount of knowledge as to the local distribution of the disease.

School closure in the presence of an epidemic of measles is a measure which, acting on my advice, the Sanitary Authority has from time to time put into force with apparently good results. This method of arresting an outbreak of disease, which has its disadvantages from an educational point of view, would I believe be less frequently necessary with a more complete system of notification, enabling the Authority to prevent more effectually the attendance at school of children from infected houses.

DIPHTHERIA.—Ninety deaths were registered from diphtheria during the year as compared with 55 in 1896 and with 49 in 1895. The number of deaths was equivalent to an annual death rate of 0·53 per 1,000 of the population as compared with 0·31 the average rate in the 33 large towns. In these towns the diphtheria death-rate ranged from 0·03 in Preston and in Sunderland, 0·05 in Bolton and 0·06 in Blackburn, to 0·37 in West Ham, 0·53 in Cardiff, 0·57 in Burnley and 0·62 in Wolverhampton.

In Cardiff the average annual death-rate from this disease during the decennial period 1887-96 was 0·27 as compared with 0·29 the rate in the large towns for the same period. The number of cases reported to the Sanitary Authority in 1897 was 512 being the highest number since the adoption of the Infectious Disease Notification Act in 1890. The case mortality or proportion of deaths to cases reported was low, being at the rate of 17·3 per cent as compared with

19 per cent in 1896. The local incidence of the disease and also the number of cases reported at age periods during each quarter of the year is shown in the following tables :—

**TABLE XXV.** DIPHTHERIA, 1897.

| Wards. | Cases reported per 1,000. | Death Rate per 1,000. |
|---|---|---|
| Central .. .. .. .. | 1·15 | 0·14 |
| South .. .. .. .. | 1·93 | 0·27 |
| Cathays .. .. .. .. | 2·59 | 0·48 |
| Park .. .. .. .. | 2·43 | 0·27 |
| Adamsdown .. .. .. | 0·83 | 0·21 |
| Riverside .. .. .. .. | 5·24 | 0·64 |
| Canton .. .. .. .. | 5·25 | 1·02 |
| Roath .. .. .. .. | 1·65 | 0·13 |
| Grangetown .. .. .. | 4·38 | 0·81 |
| Splott .. .. .. .. | 1·81 | 0·06 |

**TABLE XXVI.** DIPHTHERIA, 1897.

| Age Periods of reported cases. | First Quarter. | Second Quarter. | Third Quarter. | Fourth Quarter. | Year. |
|---|---|---|---|---|---|
| Under three years .. .. | 19 | 15 | 11 | 25 | 70 |
| Three and under thirteen .. | 47 | 50 | 48 | 153 | 298 |
| Thirteen and under twenty-five .. | 12 | 19 | 20 | 32 | 83 |
| Twenty-five and upwards .. | 13 | 14 | 9 | 25 | 61 |
| Total .. .. | 91 | 98 | 88 | 235 | 512 |

**TABLE XXVII.**

DIPHTHERIA, 1897.—Percentage of cases at age periods to cases reported in each Ward.

| Ward. | Total number of cases of all ages. | Under Three years. Per centage. | Three and under Thirteen. Per centage. | Thirteen and under Twenty-five. Per centage. | Twenty-five and upwards. Pea centage. |
|---|---|---|---|---|---|
| Central .. .. .. | 16 | 12·1 | 68·3 | 6·25 | 12·1 |
| South .. .. .. | 21 | 28·4 | 66·9 | .. | 9·52 |
| Cathays .. .. .. | 47 | 10·6 | 55·3 | 23·4 | 6·38 |
| Park .. .. .. | 62 | 11·2 | 56·4 | 11·2 | 20·9 |
| Adamsdown .. .. | 17 | 17·6 | 52·9 | 17·6 | 11·7 |
| Riverside .. .. | 105 | 9·80 | 51·9 | 25·4 | 12·7 |
| Canton .. .. .. | 103 | 19·4 | 53·4 | 18·4 | 8·73 |
| Roath .. .. .. | 25 | .. | 64·0 | 20·0 | 16·0 |
| Grangetown .. .. | 86 | 22·1 | 55·4 | 11·6 | 10·4 |
| Splott .. .. .. | 30 | 6·6 | 40·0 | 26·6 | 26·6 |

Whatever may be the complex and obscure causes favouring the universal increase of diphtheria, it is certain that they operate with considerable force in the large centres of population, and Cardiff has by no means been exempt from their influence. In epidemic years the spread of the disease is largely due to personal infection, but this cause will not altogether account for its having now become persistently endemic in London and in most of the large towns in England and Wales. The increase can hardly be due to local geological or physical conditions of soil, as these conditions vary so considerably in the different towns sharing in this increased diphtheria prevalence. The enclosed charts in the appendix to the report will show that this rise commenced about the year 1890, the curve corresponding closely in its rise and fall with that of scarlet fever, but reaching its maximum in 1893. When a diphtheria death-rate of 680 per million was attained, and it is interesting to note that in this year the maximum was reached in England and Wales and in London, the death-rate in the former being 318 and in the latter 761 per million of the population.

Mr. Shirley Murphy has shown that, as regards diphtheria in London, it has been proportionately more fatal of late years amongst children at school age period of life, and that this alteration in the age period first became conspicuous about the time when the Elementary Education Act first became operative. Difference of opinion exists as to the influence of general insanitary conditions upon the development and spread of this disease, but it is clear that such causes as defective sewerage or drainage, or pollution of soil and air, and dampness, although they may at times be connected with local outbreaks, are not in themselves sufficient to account for this general rise in the diphtheria mortality.

Moreover, it is particularly in the large cities and towns that the chief sanitary advances have been made, diphtheria increasing all the time almost *pari passu* with these very advances. The behaviour of diphtheria is in this respect in very marked contrast to that of enteric fever, a disease which is acknowledged by all to be closely related to defective sanitary conditions.

The varying incidence of these two diseases in Cardiff and South Wales generally is shown in the last published report of the Registrar-General (1895). The death-rate per million from diphtheria was 360 in Cardiff and 257 in South Wales; that from enteric fever was 100 in Cardiff and 185 in South Wales. In the preceding year (1894) the enteric fever death-rate was 50 per million in Cardiff, as compared with 164 in South Wales. In London this contrast is also well marked, where the death-rate from diphtheria increased from 122 per million in the 10 years, 1871-80, to 259 per million in the succeeding 10 years, 1881-90, reaching 410 in the 10 years ending 1895, whilst during the same period the death-rate from enteric fever declined from 244 to 140 per million. Here, therefore, we find the largest centres of population in England and Wales London and Cardiff, both showing a large decrease in typhoid fever as the result of their sanitary improvements, whilst at the same time a marked increase in diphtheria has taken place. The relation of diphtheria to school attendance has been frequently pointed out, and it has been shown that the incidence of this disease upon children at school ages is relatively high, and it is probable that the increasing prevalence of the disease in large towns is due to a great extent to the aggregation of children at susceptible ages in the large public elementary schools and the greater facilities for the spread by personal infection. An influence of this kind would, of course, be particularly felt in a town in which the population was increasing with unusual rapidity. The relation of diphtheria to scarlet fever is shown in the local distribution of both diseases in Cardiff.

For the whole year the proportion of cases notified to the population in each of the Registration Subdistricts of was as follows:—

| Registration Sub-district | Attack-rate from Diphtheria |
|---|---|
| West Cardiff ... ... ... | 5·0 per 1,000 of the population |
| East ,, ... ... ... | 2·5 ,, ,, |
| Central ,, ... ... ... | 1·8 ,, ,, |

From the above it will be seen that the distribution of diphtheria was relatively the same as that of scarlet fever, the western district being the most affected. In the case of scarlet fever the local incidence is obviously greatly influenced by the age distribution of the population and by the

proportion of children and persons unprotected by a previous attack. Anything tending to the accumulation of such susceptible persons must necessarily lead to the rapid spread of the disease when once the infection is introduced. The same conditions operate with equal certainty in the case of diphtheria, the actual spread of the disease being in most cases entirely due to personal infection, the facilities for which are of course exceedingly great, in the case of densely populated districts and during the congregation of vast numbers of children at school, amongst whom there must at all times be a certain number suffering from the disease in a mild and unrecognised form and who readily transfer the infection to their healthy colleagues. The greater prevalence of diphtheria at school ages will be seen on reference to Tables XXVI. and XXVII., giving the proportion of persons attacked at different age periods.

The relation of diphtheria to scarlet fever depends also upon other circumstances connected with the nature of the diseases. There is apparently a peculiar susceptibility on the part of persons convalescent from scarlet fever to the infection of diphtheria. In this way the corresponding local distribution of both diseases may in part be explained. Again, a certain number of cases notified as diphtheria are in reality cases of scarlet fever. They are seen probably in most cases after the disappearance of the characteristic rash, when the throat presents an appearance which is difficult to distinguish from diphtheria.

The low case mortality during the past year is also an indication of the difficulty of forming a correct diagnosis in diphtheria.

The proportion of deaths to case of true diphtheria is seldom less than 25 to 30 per cent., frequently arising as high as 40 per cent., whereas in Cardiff during 1897 this proportion was as low as 17 per cent.

The difficulties connected with the diagnosis of diphtheria render the ordinary preventive measures less applicable and efficacious. It frequently happens that the first case in a household is unrecognised, no notification of it is forwarded to the Sanitary Authority, the person attacked is probably allowed to mix freely with others, no disinfection or removal to hospital is attempted, and, moreover, hospital isolation has up to the present been carried out in comparatively few cases, the accommodation in this respect being inadequate. It is in the case of diphtheria particularly that a well-equipped bacteriological laboratory will be of use, where examinations can be made, which will enable medical practitioners to decide with more confidence upon the exact nature of the throat affection, and which will be a guide to the Medical Officer of Health upon many points connected with the isolation and disinfection of such cases. The following table shows the relative position of the death-rates of diphtheria, scarlet fever, and enteric fever in Cardiff since 1881 :—

## TABLE XXVIII.

Death-Rate per Million.—Cardiff.

| | 1881-90. | 1886-95. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. |
|---|---|---|---|---|---|---|---|---|---|
| Diphtheria .. | 200 | 250 | 260 | 260 | 680 | 460 | 360 | 370 | 530 |
| Enteric Fever .. | 330 | 230 | 190 | 190 | 190 | 50 | 100 | 80 | 110 |
| Scarlet Fever .. | 410 | 210 | 270 | 620 | 270 | 50 | 50 | 170 | 100 |

TYPHOID FEVER.—Twenty deaths were registered from typhoid fever, as compared with 13 and 14 in 1896 and 1895 respectively. The number of deaths was equivalent to a death-rate of 0·11 per 1,000 of the population, as compared with 0·18, the rate in the 33 large towns.

The average annual death-rate from "fever" in the 10 years 1887-96 was 0·17 in Cardiff per 1,000, and 0·20 in the large towns for the same period. The number of cases of typhoid fever

notified within the Borough, and the number of deaths during each year since the adoption of the Infectious Diseases Notification Act, is given below:—

| Year. | Cases Notified. | No. of Deaths. | Percentage Mortality. |
|---|---|---|---|
| 1890 | 152 | 23 | 15·1 |
| 1891 | 130 | 26 | 20·0 |
| 1892 | 118 | 24 | 20·3 |
| 1893 | 103 | 18 | 17·4 |
| 1894 | 62 | 7 | 11·2 |
| 1895 | 79 | 14 | 17·7 |
| 1896 | 74 | 13 | 17·5 |
| 1897 | 117 | 20 | 17·0 |

## AGE INCIDENCE OF THE DISEASE.

| Age Periods. | Cases Reported. | Deaths. |
|---|---|---|
| 0— 5 | 18 | 2 |
| 5—10 | 9 | 1 |
| 10—15 | 19 | 2 |
| 15—20 | 16 | 4 |
| 20—25 | 15 | 1 |
| 25—30 | 12 | 3 |
| 30—35 | 12 | 3 |
| 35—40 | 9 | 3 |
| 40—45 | 6 | 1 |
| 45—50 | — | — |
| 50 upwards | 1 | — |

## TABLE XXIX.

The Seasonal Incidence of the Disease upon the various Wards in the Borough, and upon the Public Institutions, was as follows:—

| Ward. | 1st Quarter. | | 2nd Quarter. | | 3rd Quarter. | | 4th Quarter. | |
|---|---|---|---|---|---|---|---|---|
| | Cases Notified. | Deaths. | Cases Notified. | Deaths. | Cases Notified. | Deaths. | Cases Notified. | Deaths. |
| Central .. .. | .. | .. | .. | .. | 1 | .. | .. | .. |
| South .. .. | 11 | 1 | 2 | 1 | 1 | .. | .. | .. |
| Cathays .. .. | 1 | .. | 1 | .. | 3 | .. | 2 | 1 |
| Park .. .. | 2 | .. | 1 | .. | 3 | .. | 5 | 1 |
| Adamsdown .. .. | 1 | .. | .. | .. | .. | .. | 8 | .. |
| Riverside .. .. | 4 | .. | 3 | 1 | 5 | 1 | 6 | 2 |
| Canton .. .. | 3 | .. | 2 | .. | 9 | .. | 4 | .. |
| Roath .. .. | 1 | .. | .. | .. | 1 | .. | 2 | .. |
| Grangetown .. .. | .. | .. | 1 | .. | 8 | .. | 6 | .. |
| Splott .. .. | 1 | .. | 1 | 1 | .. | .. | 2 | .. |
| Union Workhouse .. | 10 | 1 | 2 | 1 | 1 | .. | 2 | 2 |
| Seamen's Hospital .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sanatorium .. .. | .. | 1 | .. | .. | .. | 2 | .. | 1 |
| Infirmary .. .. | .. | .. | 1 | .. | .. | 2 | .. | 1 |

Fever Mortality (including Typhus, Typhoid and Continued Fevers).—Death-rates per 1,000 of the Population.

**TABLE XXX.**

| | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| England and Wales .. | 0·20 | 0·18 | 0·18 | 0·18 | 0·18 | 0·15 | 0·22 | 0·16 | 0·17 | 0·17 | 0·16 |
| 33 Large Towns .. | 0·22 | 0·20 | 0·20 | 0·19 | 0·20 | 0·15 | 0·24 | 0·19 | 0·20 | 0·19 | 0·18 |
| Cardiff .. .. | 0·16 | 0·33 | 0·25 | 0·19 | 0·19 | 0·19 | 0·12 | 0·04 | 0·10 | 0·08 | 0·11 |

Amongst the houses in which typhoid fever occurred 32 were found to have defective sanitary arrangements. These were remedied without delay under the supervision of the Sanitary Officers.

Of the 117 cases notified to the Sanitary Authority during the year 20 were imported into the town from outside the district. The low death-rate which has prevailed of late years in Cardiff was maintained during the past year, and was satisfactory evidence of the value of the sanitary improvements of the district.

Past records show that the death-rate from the disease in the period 1845-54 was 19 per 10,000 of the population, whereas in 1885-94 it was only 2·6, and during the years 1893-97 it averaged 0·81 per 10,000.

DIARRHŒA.—The deaths from Diarrhœa numbered 134, as compared with 120 in 1896. The deaths registered were equal to an annual death-rate of 0·79 per 1,000 of the population, as compared with 1·24, the average rate in the large towns of England and Wales. The average annual death-rate from Diarrhœa in the 10 years, 1887-96, was 0·84 per 1,000 in the large towns and 0.83 in Cardiff for the same period. In these towns the lowest rates in 1897 were 0·21 in Swansea, 0·32 in Halifax, and 0·35 in Huddersfield.

The distribution of the Diarrhœa deaths in Cardiff, according to the season of the year and the various age periods, was as follows during the year 1897 :—

**TABLE XXXI.**

| Deaths from Diarrhœa. | 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. | Total. |
|---|---|---|---|---|---|
| Under one year .. .. | 4 | 2 | 85 | 9 | 100 |
| One and under five .. .. | 2 | 1 | 18 | 2 | 23 |
| Five and under fifteen .. .. | .. | .. | .. | .. | .. |
| Fifteen and under twenty-five .. | .. | .. | .. | .. | .. |
| Twenty-five and under sixty .. | 1 | .. | 3 | .. | 4 |
| Sixty years and upwards .. | .. | 2 | 5 | .. | 7 |
| Total .. .. | 7 | 5 | 111 | 11 | 134 |

The relation between the temperature of the air and the diarrhœa mortality during the third quarters of the ten years, 1888-97, is shewn in the following table.—

## TABLE XXXII.

| 3rd Quarters. Year | Death-rate from Diarrhœa. | Mean Temperature. |
|---|---|---|
| 1888 | 1·4 | 57·6 |
| 1889 | 1·7 | 59·0 |
| 1890 | 2·9 | 59·7 |
| 1891 | 0·8 | 57·8 |
| 1892 | 2 3 | 60·4 |
| 1893 | 2·5 | 61·8 |
| 1894 | 0·5 | 57·0 |
| 1895 | 1·0 | 59·5 |
| 1896 | 2·4 | 58·9 |
| 1897 | 2·6 | 59·3 |

**TABLE XXXIII.**—Death-rate per 1,000 from classes of disease, 1885-97.

| Year. | Class IV. Constitutional Diseases. | | Class V. Development Diseases, | | Class VI. Local Diseases. | |
|---|---|---|---|---|---|---|
| | Cardiff. | England and Wales. | Cardiff. | England and Wales. | Cardiff. | England and Wales. |
| 1885 | 4·122 | 3·340 | 3·091 | 1·614 | 10·924 | 10·007 |
| 1886 | 4·305 | 3·370 | 3·563 | 1·638 | 10·373 | 10·040 |
| 1887 | 3·203 | 3·213 | 3·442 | 1·578 | 10·384 | 9·867 |
| 1888 | 3·306 | 3·166 | 2·947 | 1·569 | 9·275 | 9·643 |
| 1889 | 3·690 | 3·223 | 1·446 | 1·550 | 9·164 | 9·394 |
| 1890 | 3·498 | 3·374 | 1·692 | 1·611 | 10·101 | 10·364 |
| 1891 | 3·645 | 3·339 | 1·366 | 1·690 | 11·398 | 10·807 |
| 1892 | 3·517 | 3·168 | 1·240 | 1·624 | 7·791 | 9·801 |
| 1893 | 3·470 | 3·210 | 1·257 | 1·593 | 8·261 | 9·536 |
| 1894 | 3·143 | 3·015 | 1·208 | 1·462 | 7·280 | 8·427 |
| 1895 | 3·148 | 3·169 | 1·253 | 1·678 | 8·423 | 9·433 |
| 1896 | 2·624 | Not yet | 1·180 | Not yet | 8 439 | Not yet |
| 1897 | 2·728 | published | 1·046 | published | 6·732 | published |

## BOROUGH HOSPITALS FOR INFECTIOUS DISEASES.

The following tables show the number of cases under treatment at the hospitals during the year and the results in each case, also the expenditure for the financial year ending 31st March, 1897.

Dr. B. W. Broad, who was appointed Resident Medical Officer at the Hospital in January, 1896, continues to act in that capacity, and Miss Hay, who was appointed Matron in August of the same year, remains also in the same position.

I have to acknowledge the excellent services which have been rendered to the Institution by both these officials and the Nursing Staff.

**TABLE XXXIV.**—Shewing the number of Patients under Treatment at the Borough Hospital for Infectious Diseases during 1897.

| | Males. | | Females. | | Total. |
|---|---|---|---|---|---|
| | Under 5 Years. | Over 5 Years. | Under 5 Years. | Over 5 Years. | |
| I.—Remaining in hospital on 31st December, 1896:— | | | | | |
| Scarlet Fever .. .. | 9 | 24 | 10 | 29 | 72 |
| Typhoid Fever .. .. | .. | .. | .. | 1 | 1 |
| Diphtheria .. .. | .. | 2 | .. | .. | 2 |
| Small Pox .. .. | .. | 1 | .. | .. | 1 |
| Total .. .. | 9 | 27 | 10 | 30 | 76 |
| II.—Admitted during the year ending 31st December, 1897:— | | | | | |
| Scarlet Fever .. .. | 49 | 127 | 54 | 155 | 385 |
| Typhoid Fever .. .. | .. | 32 | 1 | 7 | 40 |
| Diphtheria .. .. | 17 | 25 | 13 | 27 | 82 |
| Small Pox .. .. | .. | 9 | .. | 4 | 13 |
| Total .. .. | 66 | 193 | 68 | 193 | 520 |
| Total under treatment in 1897 .. .. | 75 | 220 | 78 | 223 | 596 |
| III.—Of the above there were Discharged (*a*) Recovered:— | | | | | |
| Scarlet Fever .. .. | 47 | 131 | 52 | 164 | 394 |
| Typhoid Fever .. .. | .. | 25 | .. | 5 | 30 |
| Diphtheria .. .. | 10 | 24 | 9 | 22 | 65 |
| Small Pox .. .. | .. | 9 | .. | 4 | 13 |
| Total .. .. | 57 | 189 | 61 | 195 | 502 |
| IV.— (*b*) Died:— | | | | | |
| Scarlet Fever .. .. | 5 | 1 | 3 | 3 | 12 |
| Typhoid Fever .. .. | .. | 3 | .. | 1 | 4 |
| Diphtheria .. .. | 7 | 3 | 3 | 3 | 16 |
| Small Pox .. .. | .. | .. | .. | .. | .. |
| Total .. .. | 12 | 7 | 6 | 7 | 32 |
| V.—Remaining in hospital on 31st December, 1897:— | | | | | |
| Scarlet Fever .. .. | 6 | 19 | 9 | 17 | 51 |
| Typhoid Fever .. .. | .. | 4 | 1 | 2 | 7 |
| Diphtheria .. .. | .. | .. | 1 | 2 | 3 |
| Small Pox .. .. | .. | 1 | .. | .. | 1 |
| Total .. .. | 6 | 24 | 11 | 21 | 62 |
| Total under treatment in 1897 .. .. | 75 | 220 | 78 | 223 | 596 |

The proportion of deaths to cases under treatment during the year ending 31st December, 1897, was as follows:—

| Disease. | Mortality per cent. |
|---|---|
| Scarlet Fever ... ... ... | 2·6 |
| Typhoid Fever ... ... ... | 9·7 |
| Diphtheria ... ... ... | 19·0 |

Hospital expenditure for the year ending 31st March, 1897 :—

| | | | |
|---|---|---|---|
| Provisions, Stores, and Drugs ... ... | | | £1,777 17 6 |
| Gas and Water ... ... ... | | | 292 4 1 |
| Salaries and Wages ... ... .. | | | 995 16 6 |
| Coal and Firewood ... ... ... | | | 236 18 6 |
| Clothing ... ... ... | | | 10 17 0 |
| Garden Plants, Shrubs, &c. ... ... | | | 27 16 1 |
| Keep of One Horse ... ... ... | | | 29 18 0 |
| Telephone Service ... ... ... | | | 12 15 8 |
| Printing, Advertising and Stationery ... | | | 38 1 1 |
| | | | 3,422 4 5 |
| *Less*—Maintenance of Patients, Cardiff Board of Guardians, ... | 185 10 8 | | |
| ,, Other Patients .. | 115 15 3 | | |
| | | | 301 5 11 |
| | | | £3,120 18 6 |

Dividing this amount by the number of patients under treatment during the same period, the average cost per head during the year was £5 5s. 7d., and the average cost per week, per patient, 13s. 2d. These figures compare favourably with those of other Institutions of the same kind

## SANITARY CONDITION OF THE DISTRICT AND SUMMARY OF WORK

PERFORMED BY THE

## OFFICERS OF THE HEALTH DEPARTMENT.

The systematic house to house inspection of the district, which was commenced in January, 1891, was continued throughout the year. The following tables show the results of this inspection, from which it will be seen that a large number of sanitary defects have been remedied. The erection of new houses, together with the construction of their drainage, is entirely under the control of the Borough Engineer and Surveyor and of the Officers of his Department.

For the purposes of inspection, the Borough is divided into five districts as follows :—

| | | | Estimated Population. | Name of District Inspector. |
|---|---|---|---|---|
| District No. 1 comprising | Canton Ward<br>Riverside Ward | containing an area of 762 acres | 38,325 | T. W. Warren.<br>Certifi. San. Inst. |
| ,, No. 2 ,, | Adamsdown Ward<br>Splott Ward | containing an area of 3,024 acres | 30,065 | A. P. Preston.<br>Certifi. San. Inst. |
| ,, No. 3 ,, | Roath Ward<br>Park Ward | containing an area of 1,299 acres | 40,501 | F. Glover.<br>Certifi. San. Inst. |
| ,, No. 4 ,, | Central Ward<br>Cathays Ward | containing an area of 842 acres | 30,362 | S. Evans.<br>Certifi. San. Inst. |
| ,, No. 5 ,, | Sonth Ward<br>Grangetown Ward | containing an area of 2,424 acres | 30,337 | P. David.<br>Certifi. San. Inst. |

In addition to the District Inspectors there are also others as follows :—One Inspector for Infectious Diseases, one for Lodging Houses, one Inspector of Dairies, Cowsheds, and Milkshops. who also acts as Inspector under the Sale of Food and Drugs Act, one Inspector of Workshops, and one Inspector of Meat, who is a Veterinary Surgeon. Besides the above there are two Disinfectors.

Although there are no large insanitary areas in the Borough which could be dealt with under Part I. of the Housing of the Working Classes Act of 1890, a certain number of closing orders have been obtained in respect of individual houses, by representations made under Part II. of the Act. This part of the Act deals with houses unfit for habitation, or with obstructive buildings, stopping ventilation, or making other buildings unfit. It provides that it shall be the duty of the Medical Officer of Health to represent to the Local Authority any house which appears to him to be in a state so dangerous to health as to be unfit for habitation, and that the Local Authority shall, if they agree with the representations, take proceedings before Justices against the owner or occupier for closing the dwelling. The following property has been dealt with in this way since the passing of the Act:—Mill Lane Court, Evans' Court, and Stanley Street. The remaining courts, which are now few in number, have been kept under strict supervision; the "Trough Closets" which have been placed in them, and which are provided with automatic flushing tanks, are found to be most admirably adapted to this class of property.

In the following table it will be noticed that a large number of the houses inspected were unprovided, as regards their closet accommodation, with any kind of flushing apparatus. On referring to the details of house inspection as given in this and previous annual reports, it will be found that out of a total of 14,139 houses inspected since the house-to-house inspection was commenced in 1891, 12,840 water-closets were unprovided with any flushing apparatus or water supply.

Unfortunately this number is increasing year by year, and it is difficult to understand why in the case of new houses the Sanitary Authority does not insist on this necessary provision being made. I have for many years past advised that this course should be adopted, and as far back as 1891 reported to your Authority as follows:—"No reason whatever exists for not providing the "houses of respectable artizans and labourers with the proper means of regularly flushing their "closets. I have, therefore, to urge upon you most strongly the desirability of enforcing this "provision in the case of new houses in your district." . . . . "In connection with the above "subject it is satisfactory to note that the bye-laws which you are now submitting to the Local "Government Board for their sanction under 23 (1) of the Public Health Acts Amendment Act "1890 will contain amongst other things provisions relating to the supply of water to water-"closets."

The Bye-law to which reference was made in the foregoing report, and which has not yet received the sanction of the Local Government Board, relates to the provision of water to closets, and is applicable to old as well as new houses. It is only right and fair to owners of property that this matter should be dealt with in the original construction of the houses, and that it should not be left for the Inspector of Nuisances to deal with later on as occasion may require. It is acknowledged by all those who are competent to form an opinion on the subject that closet pans and house drains cannot be kept in an efficient state of cleanliness by merely throwing slops and waste water down them at irregular intervals; a nuisance is sure to arise sooner or later, and it must be borne in mind also that this deficiency of water, besides leading to local stoppages and defects in the drains, may aggravate, or indeed be responsible for, the nuisance arising from the sewer ventilators in the streets. A system of this kind, which of necessity causes undue retention on the premises of offensive matter, is likely to be particularly dangerous in the case of certain diseases in which the infection belongs to discharges. In such cases it is of the first importance that infectious matter deposited in closet pans should be flushed away without delay. This cannot be safely and efficiently effected in the absence of a proper flushing apparatus.

# HOUSE INSPECTION FOR THE YEAR 1897.

## CENTRAL WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Millicent Street ... ... | 41 | ... | 1 | ... | 1 | ... | 1 | 38 | 7 |
| Jenkins' Court ... ... | 5 | ... | 5 | ... | ... | ... | ... | 6 | ... |
| Mathews' Court ... ... | 6 | ... | ... | ... | ... | ... | ... | ... | 9 |
| Canal Bank ... ... | 9 | ... | ... | ... | ... | ... | ... | 4 | 10 |
| Bridge Street ... ... | 16 | 2 | ... | ... | ... | ... | ... | | |

## SOUTH WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Frances Street ... ... | 25 | 4 | ... | 2 | 5 | ... | ... | 25 | 9 |
| Loudoun Square ... ... | 65 | 2 | ... | 5 | 5 | ... | ... | 48 | 48 |
| North Loudoun Place ... | 6 | ... | ... | ... | ... | ... | ... | 6 | 2 |
| South Loudoun Place ... | 5 | ... | ... | ... | ... | ... | ... | 5 | 3 |

## CATHAYS WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Darran Street ... ... | 22 | 4 | ... | ... | ... | ... | ... | 22 | 4 |
| Llantrissant Street ... | 83 | 9 | 2 | 2 | 1 | ... | ... | 83 | 21 |
| Harriett Street ... ... | 66 | 8 | ... | ... | 5 | ... | ... | 64 | 14 |

## PARK WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Bedford Street ... ... | 115 | 42 | 1 | .. | 31 | ... | ... | 115 | 30 |
| St. Peter's Street... ... | 16 | 9 | ... | 1 | 3 | ... | ... | 16 | 6 |
| Penlline Street ... ... | 11 | 10 | 1 | ... | 4 | ... | ... | 11 | 4 |
| Tavistock Street ... ... | 5 | ... | ... | ... | ... | ... | ... | 4 | ... |
| Russell Street ... ... | 48 | 3 | 7 | 1 | 1 | ... | ... | 48 | 13 |
| Talworth Street ... ... | 75 | 21 | ... | ... | 22 | ... | ... | 21 | 18 |
| Pearson Street ... ... | 12 | 1 | ... | ... | ... | ... | ... | 5 | 5 |

## ADAMSDOWN WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Lady Margaret Terrace ... | 24 | 2 | ... | 1 | 2 | ... | ... | 24 | 4 |
| Zinc Street ... ... | 36 | 3 | ... | ... | 3 | ... | ... | 36 | 25 |
| West Luton Place ... | 5 | ... | ... | ... | ... | ... | ... | ... | ... |
| Sandon Street ... ... | 18 | ... | ... | ... | 4 | ... | ... | 18 | 10 |
| South Luton Place ... | 28 | 1 | ... | 1 | 1 | ... | ... | 28 | 12 |
| Comet Street ... ... | 46 | 7 | ... | ... | ... | ... | ... | 46 | 14 |
| Sun Street ... ... | 7 | ... | ... | ... | ... | ... | ... | 7 | 3 |
| Constellation Street ... | 90 | 4 | ... | 1 | ... | ... | ... | 87 | 27 |
| Pellett Street ... ... | 27 | 6 | ... | 2 | 3 | ... | ... | 27 | 20 |
| Platinum Street ... ... | 17 | 5 | ... | 1 | ... | ... | ... | 17 | 6 |
| South Terrace ... ... | 6 | 2 | 1 | ... | ... | ... | ... | 6 | 1 |
| Noah Street ... ... | 7 | ... | ... | ... | 1 | ... | ... | 3 | 2 |
| Pendoylan Street... ... | 15 | 11 | 1 | ... | 2 | ... | ... | 14 | 8 |

## RIVERSIDE WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Mark Street ... ... | 41 | 18 | 1 | ... | 21 | ... | ... | 41 | 20 |
| Green Street ... ... | 17 | ... | ... | ... | 1 | 2 | ... | 13 | 4 |

## ROATH WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Helen Street ... ... | 76 | 5 | 3 | 4 | ... | ... | ... | 74 | 33 |
| Cecil Street ... ... | 73 | 9 | ... | 2 | 12 | ... | ... | 59 | 34 |
| Ruby Street ... ... | 57 | 4 | ... | ... | 1 | ... | ... | 57 | 10 |
| Fox Street ... ... | 12 | ... | ... | ... | ... | ... | ... | 12 | 1 |
| Broadway ... ... | 31 | 4 | 1 | ... | ... | ... | ... | 31 | 7 |
| Elm Street ... ... | 20 | 7 | ... | ... | 7 | ... | ... | 18 | 5 |

## GRANGETOWN WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Newport Street ... ... | 26 | 2 | ... | 2 | 12 | ... | ... | 26 | 8 |
| Bradford Street ... ... | 39 | 8 | 2 | 1 | 16 | ... | ... | 39 | 22 |
| Bromfield Street ... ... | 60 | 18 | 5 | 3 | 17 | ... | ... | 60 | 29 |
| Ludlow Street ... ... | 46 | 9 | 3 | 2 | 20 | ... | ... | 46 | 17 |
| Kent Street ... ... | 67 | 7 | 1 | ... | 25 | ... | ... | 67 | 22 |
| Amherst Street ... ... | 46 | 10 | 1 | 2 | 16 | ... | ... | 46 | 17 |
| Earl Street ... ... | 22 | 10 | ... | ... | 11 | ... | ... | 22 | 6 |
| Bedwas Street ... ... | 13 | 11 | ... | ... | 10 | ... | ... | 13 | 3 |
| Cambridge Street... ... | 44 | 7 | ... | ... | 10 | ... | ... | 26 | 12 |
| Howard Gardens ... ... | 9 | ... | ... | ... | 2 | ... | ... | 8 | 5 |

## SPLOTT WARD.

| NAME OF STREET. | Number of Houses Inspected. | Defective Drains. | Choked Drains. | W.C. Pans and Syphons Defective. | Defective Stench Traps permitting an escape of Sewer Gas. | Scullery Sinks connected direct with Drain. | Inside Closets not ventilated. | Closets not supplied with Water. | Other Nuisances. |
|---|---|---|---|---|---|---|---|---|---|
| Caerphilly Street ... . | 35 | ... | ... | ... | ... | ... | ... | 35 | 3 |

## INSPECTION OF FACTORIES AND WORKSHOPS.

UNDER THE FACTORY AND WORKSHOP ACTS, 1878—95, AND THE SHOP HOURS ACT, 1892.

During the year a large number of workshops have been inspected. The results of these inspections are given in the annexed Tables :—

| Nature of Workshop. | No. on Register. | Number of Inspections. |
|---|---|---|
| Tailors ... ... | 73 ... | ... 426 |
| Dressmakers ... ... | 85 ... | ... 258 |
| Bootmakers ... ... | 38 ... | ... 90 |
| Bakers ... ... | 106 ... | ... 354 |
| Tinsmiths ... ... | 3 ... | ... 15 |
| Milliners ... ... | 33 ... | ... 147 |
| Flower Packers ... | 1 ... | ... — |
| Coachbuilders ... ... | 5 ... | ... 15 |
| Plumbers ... ... | 8 ... | ... 14 |
| Carpenters and Joiners ... | 8 ... | ... 32 |
| Blacksmiths ... ... | 7 ... | ... 74 |
| Upholsterers ... ... | 9 ... | ... 30 |
| Paper Bag Makers ... | 2 ... | ... 11 |
| Watchmakers ... ... | — ... | ... 4 |

INSPECTION OF FACTORIES AND WORKSHOPS—*Continued.*

| Nature of Workshop. | No. on Register. | Number of Inspections. |
|---|---|---|
| Pipe Manufacturers ... | 1 | 6 |
| Electro Platers ... | 1 | 7 |
| Laundries ... ... | 6 | 37 |
| Sugar Boilers ... ... | 3 | 16 |
| Chairmakers ... ... | 2 | 6 |
| Printers ... ... | 5 | 52 |
| Oatmeal Packers ... | 1 | 4 |
| Cycle Works ... ... | 1 | 7 |
| Waterproof Manufacturers... | 1 | 6 |
| Saw Mills ... ... | — | 6 |
| Bottling Stores ... | 2 | 30 |
| Box Makers ... ... | 1 | 4 |
| Oilskin Manufacturers ... | 2 | 6 |
| India Rubber Merchants ... | 1 | 9 |
| Chemical Works ... | — | 10 |
| Hose Manufacturers ... | 1 | — |
| File Works ... ... | — | 2 |
| Jam Works ... ... | — | 3 |
| Boat Builders ... ... | 1 | 15 |
| Wagon Works... ... | — | 6 |
| Pianoforte Manufacturers ... | 2 | 15 |
| Boilermakers ... ... | — | 2 |
| Brass Foundries ... | — | 4 |
| Packers ... ... | 4 | — |
| Basket Makers ... | 1 | — |
| Sewing Machine Makers ... | 1 | — |
| Saddlers ... ... | 3 | — |
| Electricians ... ... | 1 | — |
| Coopers ... ... | 1 | — |
| Curriers ... ... | 1 | — |
| Toy Makers ... ... | 1 | — |
| Photographers ... | 2 | — |
| Plaster Moulders ... | 1 | — |
| Firewood Cutters ... | 1 | — |
| Umbrella Makers ... | 1 | — |
| Engineers ... ... | 1 | — |
| | 428 | 1,721 |

Notices of New Workshops from Inspector of Factories under Factory Act, 1891, Sec. 26 Sub. 2, Factory Act, 1895, Sec. 41 = 18.

Notices from Inspector of Factories *re* Sanitary Defects in Workshops, Sec. 4, Factory and Workshop Act, 1878 = 16.

Notices sent by Sanitary Authority to Inspector of Factories under Sec. 3, Factory and Workshop Act, 1891 = 15.

## WORKSHOPS.

| Nuisance Abated. | Sailmakers. | Carpenters. | Sugar Boilers. | Saddlers. | Waggon Works. | Plumbers. | Tinsmiths. | Opticians. | Firewood Cutters. | Foundries. | Printers. | Blacksmiths. | Bottling Stores. | Bootmakers. | Laundries. | Painters. | Dressmakers. | Bakers. | Tailors. | Milliners. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Water closets cleansed and repaired ... ... | ... | 2 | ... | ... | ... | 1 | 1 | 3 | ... | 1 | 3 | ... | 1 | ... | ... | 1 | ... | 1 | 1 | ... |
| Water closets supplied with water ... ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... |
| Drains trapped and repaired | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 3 | 1 |
| Ventilation provided ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... |
| Limewashed ... ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | 1 | 14 | 11 | ... |
| Repaired ... ... | .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... |
| Overcrowded ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | ... |
| Closed ... ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| W.C. accommodation provided ... ... | 3 | ... | ... | ... | 4 | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | ... | ... | 1 | ... | ... |
| Roofs and shutes repaired ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... |
| Accumulations removed ... | ... | ... | ... | .. | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total ... | 3 | 2 | 1 | 1 | 6 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 4 | 4 | 3 | 1 | 3 | 20 | 18 | 1 |

## SHOP HOURS' ACT, 1892.

| Nature of Shops Inspected. | Number of Inspections. | Number of Shops in which young persons are employed. | Infringement of Act. | Proceedings taken. Result. |
|---|---|---|---|---|
| Hotels ... ... ... | 22 | 21 | ... | ... |
| Mantle Shops ... ... ... | 16 | 12 | ... | ... |
| Tobacconists ... ... ... | 30 | 26 | ... | ... |
| Confectioners ... ... ... | 20 | 20 | ... | ... |
| Stationers ... ... ... | 42 | 37 | ... | ... |
| Furnishers ... ... ... | 25 | 23 | ... | ... |
| Clothiers ... ... ... | 26 | 22 | ... | ... |
| Drapers ... ... ... | 122 | 110 | ... | ... |
| Hairdressers ... ... ... | 40 | 32 | ... | ... |
| Hatters and Hosiers ... ... | 15 | 14 | ... | ... |
| Grocers ... ... ... | 228 | 205 | ... | ... |
| Restaurants ... ... ... | 25 | 25 | ... | ... |
| Boot and Shoe Shops ... ... | 9 | 8 | ... | ... |
| Fishmongers ... ... ... | 29 | 25 | ... | ... |
| Fruiterers ... ... ... | 26 | 22 | ... | ... |
| Chemists ... ... ... | 48 | 44 | ... | ... |
| Ironmongers ... ... ... | 40 | 32 | ... | ... |
| Butchers ... ... ... | 49 | 45 | ... | ... |
| Pawnbrokers .. ... ... | 33 | 25 | ... | ... |
| Fancy Toy Shops ... ... | 20 | 16 | ... | ... |
| Saddlers ... ... ... | 30 | 25 | ... | ... |
| Total ... ... | 895 | 789 | ... | ... |

INSPECTION OF COMMON LODGING HOUSES.—These houses are regulated by the provisions of the Public Health Act, 1875. Section 77 requires all Common Lodging Houses to be registered, and Section 80 empowers the Sanitary Authority to make Bye-laws.

(1) For fixing and from time to time varying the number of lodgers who may be received into a Common Lodging House, and for the separation of the sexes therein.

(2) For promoting cleanliness and ventilation in such houses.

(3) For the giving of notices and the taking precautions in the case of any infections diseases; and

(4) Generally for the well ordering of such houses.

In the year 1891, your Authority adopted Bye-laws which correspond closely with the "Model Bye-laws" of the Local Government Board.

## COMMON LODGING HOUSES.

| | |
|---|---|
| Total number on register ... ... ... ... ... | 90 |
| Registered rooms ... ... ... ... ... | 421 |
| Number of persons certified to accommodate ... ... | 1,497 |
| Day inspections... ... ... ... ... | 20,971 |
| Night „ ... ... ... ... ... ... | 90 |
| W.Cs. cleansed and repaired ... ... ... ... | 136 |
| „ supplied with water ... ... ... ... ... | 22 |
| Additional W.C. accommodation provided ... ... ... | 6 |
| Drains trapped and repaired ... ... ... ... | 82 |

COMMON LODGING HOUSES—*Continued.*

| | |
|---|---|
| Soil pipes ventilated ... ... ... ... ... | 7 |
| Special ventilation provided to rooms ... ... ... ... | 6 |
| Lime-washed ... ... ... ... ... ... | 200 |
| Over-crowded ... ... ... ... ... ... | — |
| Yards paved ... ... ... ... ... ... | 23 |
| Accumulations removed ... ... ... ... ... | 51 |
| Infectious disease discovered ... ... ... ... | — |
| Registered ... ... ... ... ... ... | 28 |

## SEAMEN'S LODGING HOUSES.

| | |
|---|---|
| Total number of applications ... ... ... ... | 223 |
| ,, ,, persons licensed ... ... .. ... | 127 |
| ,, ,, houses, the occupiers of which have been licensed ... | 129 |
| Maximum number of lodgers authorised to be received in the above ... | 1,213 |
| Number of day inspections ... ... ... ... ... | 2,066 |
| ,, night ,, ... ... ... ... ... | 129 |
| Number of houses in which sanitary improvements have been effected ... | 133 |
| NATURE OF SANITARY DEFECTS :— | |
| Defective water-closets ... ... ... ... | 62 |
| Insufficient W.C. accommodation... ... ... .. | 16 |
| Defective drains ... ... ... ... ... | 126 |
| Defective paving in yards ... ... ... ... | 143 |
| Defective bedroom ventilation ... ... ... ... | 23 |
| Stables without manure pits ... ... ... ... | 6 |
| Houses with walls and roofs out of repair ... ... ... | 143 |
| Infectious disease discovered ... ... ... ... | 4 |

## INSPECTION OF SLAUGHTER-HOUSES AND MARKETS.

Mr. Moir, M.R.C.V.S., your Inspector of Meat, reports to me, that he has made daily inspections of the Public Abattoirs at Roath and Canton.

The following is the result of his inspections :—

| | Canton Abattoir. | Roath Abattoir. |
|---|---|---|
| Beasts slaughtered . ... | 658 | 5,742 |
| Sheep ,, ... ... | 6,751 | 39,869 |
| Calves ,, ... ... | 382 | 3,610 |
| Pigs ,, ... ... | 3,880 | 24,676 |
| | 11,671 | 73,897 |

The following is the amount and description of food seized and dealt with under the 116-119 Sections of the Public Health Act :—

Beef, 6,022 lbs. Mutton, 196 lbs. Pork, 3,630 lbs. Fish, 976 lbs.

The nature of the diseases detected in each case was as follows :—

| | |
|---|---|
| Tuberculosis .. ... ... | 2 Pigs. |
| Tuberculosis ... ... ... | 5 Cows. |
| Erysipelas ... ... ... | 6 Pigs. |
| Puerperal Perintonitis ... ... | 1 Cow. |
| Enteritis ... ... ... | 1 Cow. |
| Enteritis ... ... ... | 3 Pigs. |
| Pyæmia ... ... ... | 7 Pigs. |
| Pneumonia ... ... ... | 1 Pig. |
| Swine Fever ... ... ... | 6 Pigs. |
| Septicæmia ... ... ... | 3 Pigs. |

WATER SUPPLY.—Quite recently the Local Government Board has issued a most important Memorandum to Sanitary Authorities throughout the country. The following is a copy of the same:—

*Town Councils.*

*Urban District Councils.*

*Rural District Councils.*

WATER SUPPLIES IN DISTRICTS NOT WITHIN LIMITS OF SUPPLY OF WATER COMPANIES.

LOCAL GOVERNMENT BOARD,

WHITEHALL, S.W.,

17th December, 1897.

SIR,

I am directed by the Local Government Board to call the attention of the Council to the subject of the water supply of their District.

The importance of a wholesome supply of water need not be emphasized in view of the serious epidemics of enteric fever which have, of recent years, been brought about by specific contamination of water supplies in different parts of the country. It is true that this disease, which formerly prevailed somewhat generally in endemic form, has during the last twenty-five years been largely reduced as a cause of death; but, on the other hand, there is now a recurring tendency to sudden localised epidemics, in which the typhoid infection is distributed to large populations by means of the contamination of water delivered from public works of water supply.

The Council are the body responsible under the Public Health Acts for securing to the inhabitants of their district a proper and sufficient supply of water, and the Board desire to impress upon them the importance of taking the matter into their serious consideration, with the object of guarding their district against dangers, the gravity of which has been sufficiently shewn by recent examples.

Where the Council have themselves constructed or purchased any waterworks it is their duty, in pursuance of section 55 of the Public Health Act, 1875, to provide a supply of "pure and wholesome" water, and in order to fulfil this obligation it behoves them to exercise every precaution to secure that the water which they deliver to the consumers shall be protected from risk of contamination, whether in connexion with the sources from which it is derived or during the course of its storage or distribution, and that where means of filtration are necessary, these should be adequate and maintained in a thoroughly efficient condition.

Not only are the Council thus under a responsibility for the wholesomeness of the water which they themselves supply, but they should by careful inquiry make themselves acquainted with the sources, nature and quality of the various supplies in all parts of their district, and, in every case in which the result of their inquiries is unsatisfactory, should take all such steps as may be within their powers with the view of supplementing or improving the supplies.

The Board would observe generally that accurate information should be procured, if not already available, in such matters as the following:—

*1st.—Where Water is derived from Gathering Grounds or from Springs.*

Whether drainage from human habitations, farmyards and the like finds its way directly or indirectly into the reservoir or to any part of the water service; and whether risk of access to the water of human excreta and similar refuse is likely to arise.

*2nd.—Where Water is derived from Deep Wells.*

Whether surface or other water, liable to be contaminated by drains, sewers, cesspools and the like, reaches, or is liable to reach, the wells. The existence and direction of fissures in the strata deserve especial consideration in this respect.

*3rd.—Where Water is derived from Shallow Wells.*

Whether the wells are so circumstanced that they run risk of contamination by reason of drains, privies, cesspools, or middens, or by the deposit of manure—whether derived from human excreta or not—in or on the ground in the neighbourhood of the wells.

The Board trust that the Council will not fail to give their most careful attention to this subject, and that where it may appear that further works which may be within the powers of the Council for the improvement or protection of existing supplies are needed, the Council will forthwith, with the assistance of such skilled advice as the circumstances of the case may require, execute the necessary works,

The Board requests that a copy of this communication may be furnished to the Medical Officer of Health.

I am, Sir,
Your obedient Servant,
HUGH OWEN,
*Secretary.*

To the Clerk of the Council.

It is doubtless the epidemics of typhoid fever at Maidstone and Lynn to which this Memorandum more particularly refers, and it is important to note also that it refers to the Sanitary Authority or Council as the body responsible under the Public Health Acts for securing to the inhabitants of their district a proper and sufficient supply of water, and for guarding their district against dangers, the gravity of which has been sufficiently shewn by recent examples.

There can be no doubt that the favourable health statistics in this district, and especially those which relate to typhoid fever, are largely due to the fact that your Authority has thoroughly realized its responsibility in this matter, and that it has provided a public supply of water second to none in the country, both as regards its quality and its sufficiency. The Memorandum is of interest also in that it calls the attention of the Sanitary Authority to the necessity of being in possession of such accurate information relating to the source of water supply as can only be obtained by a regular and systematic inspection of the gathering ground, reservoirs, and filter beds, followed also at regular intervals by complete chemical, microscopical and bacteriological examination of the water. The inspection should be carried out jointly by the Engineer and Medical Officer of Health for the purpose of seeing that all risk of pollution is avoided, and that the healthy surroundings of the reservoirs and filter beds are maintained.

The examination of the water should be frequent and continuous in order that minute changes in its constitution may be noted and regarded. Such analyses might conveniently form an important part of the work carried on in the suggested Public Health Laboratory.

I suggest, therefore, that the systematic inspection of the water-works and gathering ground is of the first importance and as necessary as the sanitary inspection of the district under your immediate control.

MILK SUPPLY.—The total number of Milk Sellers on the register is 649, including 50 who are registered Cowkeepers.

The premises occupied by these persons have been regularly inspected and the majority of them were found to have complied fairly well with the "Regulations" of the "Dairies, Cowsheds, and Milk-Shops Order." Cowkeepers generally have the most crude and imperfect notions of cleanliness, and there can be no doubt that illness, more particularly diarrhœal diseases amongst children, is due to this fact. This condition of things is not of course confined to Cardiff, but according to the Reports of Medical Officers of Health, it prevails more or less all over the country. In Cowsheds, it is rare to find that degree of cleanliness which is necessary, either for the health of the cows or the protection of the milk. Milk is therefore frequently delivered containing a considerable amount of dirt derived in part from the hands of the milker and in part from the cow itself.

Under these conditions the milk is apt to undergo rapid decomposition and recourse is had to preservatives such as boric acid, salicylic acid, &c. With a view of effecting an improvement in this direction I advised your Authority to add to the duties of your Meat Inspector, who is a Veterinary Surgeon, the inspection of cattle in cowsheds.

This duty he has performed during the past year with beneficial results. This inspection is in addition to that performed by the Inspectors of Nuisances. It is also satisfactory to find that the practice of sterilization of milk is being introduced by purveyors. This process renders harmless any impurities which may have gained access to the milk without in any way detracting from its nutritive value.

Another important duty of the Veterinary Inspector will be the examination of the cows in dairies and cowsheds with respect to their reaction with Tuberculin, in order to ascertain if they are affected with Tuberculosis. This part of the work has not yet been commenced and will be more conveniently undertaken when the Laboratory arrangements alluded to elsewhere are in a more complete state. Your Health Committee being desirous of obtaining more information relating to the preservation of milk by chemical substances requested me to report upon the subject.

The following report was therefore submitted:—

To the Chairman and Members of the Health and Port Sanitary Committee.

Gentlemen,

Your Committee, as the Authority charged with the administration of laws and regulations affecting the public health, having requested me to advise as to whether the addition of certain substances as preservatives to food is injurious to health, I beg to submit the following report:—

The practice of adding chemical antiseptics to perishable foods is on the increase, and the attention of Sanitary Authorities has from time to time been called to the matter by their Public Analysts, but up to the present little or no action has been taken with a view of suppressing or controlling the practice.

The questions as to what extent the use of these antiseptics is justifiable, and whether their use should be prohibited altogether on hygienic grounds, are of very considerable importance to the community at large, and demand greater consideration than they have yet received. Owing, however, to the incompleteness of our knowledge, it is by no means easy to give a definite opinion upon the subject. The preservatives which are usually added to food are Boric Acid, Borax, Salicylic Acid, and Formalin. The chemical substances do not naturally enter into the composition of food, and have no nutritive value. These chemical most frequently used is boric acid, and in the preservation of butter and milk. This report will therefore deal principally with the use of this preservative in connection with those very common and largely used articles of diet. In the first place, I would refer to the powers which you possess for dealing with the adulteration of foods, and would point out, as far as I am able, to what extent these powers relate to the addition of chemical preservatives to food. The powers which have been delegated to your Committee by the Council are, for the most part, contained in the Sale of Food and Drugs Act, 1875, and the Amendment Act of 1879. The former, the principal Act, deals with two distinct classes of adulteration—those which are injurious to health, and those which are not injurious. Section 3 relates to the former and Section 6 to the latter class of adulteration. Section 3 is rarely put into operation, and this for several reasons. In the first place the practice of adulteration with injurious substances has of late years very greatly diminished. Forms of adulteration which were formerly common, such as the introduction of alum into bread, and the colouring of confectionery with poisonous materials are now almost unknown. The prevailing adulterations are now almost entirely in the nature of harmless though fraudulent mixtures. Another important reason which has led to the disuse of this Section is the difficulty of obtaining a conviction under it, owing to the necessity of proving that the adulteration is injurious to health, a necessity which has usually called forth very conflicting expert evidence, and has involved the Authority in heavy expense. Moreover, under the 3rd Section the penalties are very much heavier than under Section 6, and it is necessary also to prove a guilty knowledge on the part of the person charged with adulteration.

Whatever the reasons may be, the fact remains that nearly all the proceedings under the Sale of Food and Drugs Act, are taken under Section 6, which deals with adulterations which are not injurious to health, and upon this Section, therefore, nearly the whole of the working of the Act depends. Generally, this part of the Act is intended to prevent the addition of substances to food with the view of fraudulently increasing its bulk, weight, or measure, or to conceal its inferior quality. As for example, the addition of chicory to coffee, of foreign fat to butter, and of water to spirits or milk. Section 6 provides that "No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality of the article demanded by such purchaser." In this case it is not necessary to prove that the person charged had a knowledge of the adulteration or that there was any injury to health caused by the substance added. Certain important provisions have, however, been added to this Section in the interests of the vendor, which modify its operation, and the one which concerns this inquiry, is that which enacts that no offence shall be deemed to be committed "where any matter *not injurious to health* has been added to food, because the same is required for the production or preparation thereof as an article of commerce in a state fit for carriage or consumption, and not fraudulently to increase the bulk," &c.

The addition of small quantities of boric acid to butter or milk with no fraudulent intention, but with the sole object of preserving it, does not seem at all analogous to mixing chicory with coffee, or margarine with butter.

If, therefore, proceedings were taken under Section 6, the person charged would certainly claim exemption under the above proviso, which was evidently intended to permit the addition of harmless preservatives. In order to obtain a conviction, even under this Section, it would seem to be necessary to prove that the substance added for the purpose of rendering the articles portable or palatable was injurious to health, and in this case it would be more reasonable to take action under Section 3, which deals entirely with injurious adulterations.

Boric or Boracic Acid $H_3\ BO_3$ is a weak acid and in dilute solutions almost tasteless. As a drug it is given medicinally in doses of from 5 to 30 grains for adults, probably the maximum dose for infants under one year of age would be about three grains.

It is used externally as an antiseptic in surgical dressings of wounds, ulcers, &c., and in such cases it acts by arresting the growth of bacteria and in checking putrefaction. Its action as an antiseptic does not appear to be very powerful. Its germicidal action is feeble, and it is not therefore of any value as a disinfectant, but it is used extensively in the preservation of perishable food. It is stated that it requires a solution of the strength of 1 in 1,000 of boric acid to keep milk sweet for forty hours, and in that case from 15 to 30 grains would be consumed daily by a bottle-fed baby.

This is far in excess of the maximum medicinal dose for an infant, and such an amount could hardly be taken continuously without some injurious consequences. By some authorities it is stated that boric acid checks the growth and development of the micro-organisms upon which fermentation depends, and it has been suggested that it acts injuriously upon the ferments of the digestive fluids which are secreted by the glands of the human digestive organs.

This action, however, is not confirmed by laboratory experiments. Mr. R. A. Cripps, F.I.C., published in the *Analyst* of July, 1897, some experiments made by him on the action of boric acid on the digestive ferments. In giving the results, Mr. Cripps stated that "In so far as the processes of digestion in a living person are represented by such experiments in glass vessels, such processes are not influenced by the employment of boric acid in quantity considerably in excess of that necessary for preservation of food."

Mr. Hehner also made some experiments on peptic digestion with similar results, the digestive action was not in any way retarded by the addition of boric acid. But both these experimenters rightly observe that this does not necessarily carry with it the inference that boric acid was harmless, for it was not known what its physiological action might or might not be when

absorbed into the system. Laboratory experiments of this kind, although interesting and suggestive, cannot therefore be taken as representing the real process of digestion going on in the living body.

A Select Committee of the House of Commons was appointed to inquire into the working of laws relating to food adulteration, and in July, 1896, presented their report, but although they examined several witnesses upon the question of food preservation with antiseptics, they did not commit themselves to any definite opinion, but referred the matter to a Court of Reference of Experts, the creation of which they recommended. The following is an extract from this report bearing upon this particular point:—

"Antiseptics are added to almost all perishable foods. Some of these preservatives are said to be poisonous, and their use would, therefore, appear to be prohibited by Section 3 of the Act of 1875. Your Committee understand that it would be difficult to prove that some colouring agents and antiseptics are injurious to health, but the opinion has been expressed that some limits to their use should be imposed. Your Committee are informed that in France the sale of any article to which antiseptics have been added is absolutely prohibited, and a similar course appears to have been taken in Germany, Italy, Spain, Brazil, and the Argentine Republic. Your Committee think the matter is one which deserves further investigation by recognised scientific authorities with a view to the expression of an opinion that would be regarded as authoritative." The Committee further allude to the report of the Local Government Board for 1890-91, in which it was stated that "there is no doubt that boric acid, if taken in large quantities would be injurious to health, but we have not sufficient information to show whether such minute amounts as are generally added as preservatives could be regarded as having that effect, and more exact information is wanted before it can be decided whether a process which *prima facie* may be regarded as intended to prevent the loss of valuable food should be prohibited by law."

In giving evidence before this Committee Mr. H. Preston Thomas formerly in charge of the Department of the Local Government Board, which deals with the administration of the Sale of Food and Drugs Acts, stated that "The Board had no evidence as to actual injury to health having been caused by the use of antiseptics in food," and that "infinitesimal amounts of these preservatives are used, and that to prohibit them altogether whether it was or was not necessary would involve probably the waste of a good deal of good food which is now preserved by their means."

Mr. Richard Bannister, F.I.C., Deputy-Principal of the Government Laboratory, Somerset House, was asked by the Committee whether he would treat the presence of a little boric acid in butter differently from the presence of salt? replied, "I would not." Mr. Otto Hehner, F.I.C., Public Analyst for Nottinghamshire, &c., who was deputed by the Society of Public Analysts to give evidence to this Committee, stated that, "Under this Act preservatives like boric acid, salicylic acid, sulphurous acid, and so on, are almost universally added to food, such as milk, cream, butter, bacon, meat, fish, wine, and beer to make these articles 'fit for carriage,' and no limit whatever is imposed upon the vendors. These substances are chemicals; they are antiseptics which prevent the growth of bacteria, but they almost certainly are liable to produce disorders of digestion." . . . "Every country of the world almost has legislated against their use, and has prohibited the use of antiseptics generally. In England almost every perishable food and substance is chemically preserved."

I am indebted to Mr. C. E. Cassal, F.I.C., Public Analyst for Kensington and St. George's, Hanover Square, for the following information respecting this particular substance: "Boric Acid," Mr. Cassal says, "is generally added to Milk in the form of certain proprietary articles which are sold to the trade. It is added, as a rule (in solution), in the proportion of at least seven grains of the solid substance to the pint. In Cream it is added in at least double this proportion. It is to be borne in mind that as both the farmer and the dairyman in London are likely to use the preservatives these amounts may be largely increased. It is quite possible that a healthy infant taking a quart of Milk daily would absorb as much as 28 grains in that time, and it must

further be noted that the specified addition is not unlikely to be exceeded through the carelessness or ignorance of those making use of the preservative. Proceedings could be taken against vendors of Milk containing Boric Acid compounds under Section 3 of the Sale of Food and Drugs Act, which prohibits with certain unfortunate reservations the 'mixing, colouring, staining or powdering of any article of food with any ingredient or material so as to render the article injurious to health.' It is a matter of great difficulty however to prove 'injury to health' to the satisfaction of an ordinary Court, and the practical necessity under this section of stating the percentage of the drug present would probably introduce inconvenient and expensive changes in the method of taking samples."

Some little time ago (January, 1897) the Editors of the *Lancet* addressed a letter to several leading members of the Medical Profession with a view of obtaining an authoritative expression of opinion upon the subject of Antiseptics in Food. The letter contained the following questions:—

1. Is the presence of small quantities of Salicylic Boric or Benzoic Acids or Formalin in food in sufficient quantities to preserve it injurious to health?
2. Should the use of Antiseptics for this purpose be forbidden by law altogether?
3. Should legislation be brought to bear on the restriction of the amount?
4. Should the law insist that when preservatives are used the fact should be stated on the label?

To these questions the following replies were sent:—Sir Henry Thompson wrote that "he had long held that the addition of Antiseptics was undesirable; though unable to produce evidence that any one of them had given rise to deleterious action, owing to the impossibility of isolating the precise influence of the drug. He objects strongly to the dietetic use of drugs, and is of opinion that the name and quantity of the Antiseptic employed should be on the label or on a paper setting forth the matter or vendor's name." Dr. Pavy wrote that "he did not consider our knowledge sufficiently extended to permit of its being taken for granted that no injury is producible though there is no evidence of injury to health. He points out that it is the vendor and not the consumer that is benefitted. He considers that notification of the fact of antiseptics being employed, and their nature and amount would be sufficient, any deviation from this notification should be liable to prosecution. With the public interest thus safeguarded, he thinks that advantage might be taken of the power of antiseptics in preserving of food." Dr. F. J. Allen points out the possibility of daily accumulation of antiseptic quite sufficient to produce a gradual lowering of the standard of health, and is of opinion that the fact of an antiseptic being added and its nature should be required by law to be announced at the time of sale. Dr. Sims Woodhead draws attention to idiosyncrasy and cumulative effect, and dwells upon our ignorance of the action of certain drugs (*e.g.* Formalin) on food. He points out that by the use of preservatives foods of inferior quality may be doctored. He would make the use of antiseptics illegal unless their their nature and quantity be made known.

The late Sir B. W. Richardson considered that antiseptics are not only necessary at this moment, but when used in proper form and quantity cause no injury whatever. There ought to be a license given permitting a certain fixed, and not dangerous, quantity of antiseptic, and it ought to be stated on the label what the antiseptic is and its quantity. Dr. T. Lauder-Brunton writes that "one must remember that poisons are formed in foods by spontaneous decomposition, which may take place after purchase. The question to be decided seems to be whether antiseptics are likely to be more injurious to health than the natural products of decomposition. His own belief is that preservatives are less injurious. His answers are: (1.) The use of antiseptics should not be forbidden by law. (2.) It is doubtful whether legislation should restrict the amount, as the makers will probably use the minimum amount found sufficient. (3). The fact of preservatives being used and their amount should be stated on the label." Sir W. Roberts says that "there is no reliable information available, and an inquiry is needed."

Now, however interesting these statements may be as coming from medical men of great eminence, it is noticeable that none of the opinions expressed are based on the result of actual experience. There seems indeed to be a complete absence of any evidence of this kind.

I can give no instances from my own experience of any definite illness having been produced by Boric Acid, and I have been unable to hear of any in this neighbourhood. Dr. M. K. Robinson, Medical Officer of Health for East Kent, has, however been kind enough to furnish me with particulars of some cases which were brought to his notice. "During September, 1895, a sudden and serious outbreak of illness occurred in a religious house in Dover. Five out of seven inmates were attacked within a short period of each other, thus indicating some common origin as a source of the mischief. The symptoms were severe, including especially colic and protracted vomiting, with suppression of urine and great prostration. The five attacked had partaken of a certain supply of milk; the others had not. To the milk taken in the morning and the afternoon of the day of seizure, the cook added a preservative, known as glacialine, which was found to contain as its basis, boric acid. A specimen of the milk supplied by the dairyman was also analysed and found to contain boric acid. Thus this substance had been added to the milk both before and after its delivery at the house. Some of the milk was given to nine fowls, five devoured the food with avidity, four more sparingly; the five died, the four suffered from vomiting and diarrhœa but ultimately recovered. The crop and gizzard of one of the fowls was submitted to analysis and found to contain a considerable quantity of boric acid." Dr. Robinson states that after elimination of other possible causes the evidence pointed to boric acid as the real factor which gave rise to the illness.

In my opinion the most objectionable and dangerous features connected with the preservation of food by antiseptics are, firstly, that by their use, there is the possibility of infants and young children, whose diet consists largely of milk, being continuously dosed with an excess of the drug, and thereby being made ill; and the further possibility, if the real cause of the illness should be overlooked, of their being dosed again with some other drug by way of remedy, very much to the detriment of their constitutions. Secondly, with regard to the public generally, who consume more or less largely both milk and butter, there is the danger that the preservative may have been added with a view of concealing the staleness of the food, or of preventing its further decomposition, a contingency far more likely to be followed by serious consequences than the mere absorption into the system of small quantities of boric acid. Indeed, it is quite possible that in those cases in which illness has been attributed to the use of boric acid, that the symptoms were in reality due to certain ptomaines or poisonous substances, the result of incipient decomposition. In cases of this kind where there is obviously a certain amount of doubt as to the effect of the antiseptic on the system, it is only right that the purchaser should have the chance of avoiding what risk there may be, and that the law, if it allows their use at all, should insist that, in all cases where they are used, the nature and quantity of the preservative should be plainly set forth on the label.

The most practical points connected with this subject remain for consideration, viz. :— What quantity, if any, of boric acid can be used as a food preservative with safety to the public, and under what circumstances would proceedings be justifiable under the Sale of Food and Drugs Act when its presence is notified in the certificate of the Public Analyst?

With the view of ascertaining what action other Sanitary Authorities had taken in the matter, I addressed a circular letter to the Medical Officers of Health and to the Clerks of thirty-three large towns, of all the counties in England and Wales, and of all the London Vestries. Out of ninety replies which I received to the inquiry, as to whether proceedings had been taken under the Sale of Food and Drugs Act in cases where boric acid had been mixed with food, three only were in the affirmative. Dr. Hill, the Medical Officer of Health and Public Analyst for Birmingham, reports proceedings in two cases of milk containing respectively 60 and 65 grains of boric acid per gallon, a conviction followed in each case under Section 6 of the Act. Mr. J. Stafford Gustard, Clerk to the Monmouthshire County Council, informs me that one summons has been issued under Section 3, but that it had not been disposed of. Dr. W. Williams, Medical Officer of Health for the Glamorgan County Council, states that proceedings have been taken in seven cases, and that several others are now pending; that in two of these cases boric acid had been added to milk in the proportion of 0·30 and 0.20 per cent. respectively; and that convictions had been obtained in both cases.

In five cases the boric acid had been added to butter in amounts varying from 0·13 to 1·60 per cent. Two of these, in which 0·50 per cent had been added, were dismissed on account of a defect in the Analyst's certificate; and one case, in which 0·13 per cent. had been added, was withdrawn, leaving two in which convictions followed the summons, and in which the added boric acid amounted to 0·90 and 1·60 per cent. respectively.

In the case of milk it is abundantly clear that the addition of antiseptics is quite unnecessary, and that there are other and better means of preserving it. The law, however, at present does not prohibit the practice altogether; the question for experts to decide is, therefore, the permissible limit. I have already pointed out that 0·1 per cent. of boric acid is sufficient for the preservation of milk; this proportion corresponds to about seven grains to one pint. An infant taking a quart of milk daily would thus absorb at least 14 grains of boric acid per diem; a quantity which certainly might prove injurious to the health of the infant taking it. I am of opinion, therefore, that the above limit (0·1 per cent.) should not be exceeded. Milk will keep perfectly fresh, without any preservatives, for at least twenty-four hours, provided that it is stored under proper conditions of cleanliness, and kept free from any source of contamination, and it is undesirable to encourage its storage beyond that period.

With regard to butter, the case is somewhat different, as this article does not form the exclusive dietary of any class of the community, and it would appear that some antiseptic is necessary for the preservation of butter, especially when imported into this country from abroad, or if it is intended to be kept for any length of time. Salt is the preservative most commonly used in butter, about four or five per cent. being added in the case of Irish salt butter, which enables it to keep for several months. The addition of boric acid has the advantage from the point of view both of the vendor and purchaser, that it is tasteless and cheap. It is also a fairly good preservative.

The amount required to preserve butter is stated to be 0·25 per cent., an amount which corresponds to nearly 18 grains per lb. Supposing one lb. of butter to be the weekly allowance of any one person (a quantity in excess of the average) the dose of boric acid would then only be two or three grains per diem., an amount quite insufficient under ordinary circumstances to produce any ill effects on the system. It is certainly most desirable, even in this case, that no excess of the preservative should be used, for it must be remembered that although this amount (0·25) per cent. might be quite harmless when taken occasionally, injurious effects might follow its continued use for a prolonged period. Under any circumstances, the addition of drugs to our food without our knowledge should not be permitted. If antiseptics of any kind are added to articles intended for food, their nature and quantity should be distinctly announced at the time of sale.

I have the honour to be, Gentlemen,

Your obedient Servant,

Edward Walford, M.D.,

Medical Officer of Health.

PUBLIC HEALTH LABORATORY.—During the past year your Health Committee had under consideration the establishment of an Institute of Public Health. A Joint Committee was appointed from representatives of the Cardiff Urban Sanitary Authority, the Glamorgan County Council, the Cardiff Technical Instruction Committee and the Medical School of the University College of South Wales. The Committee proposed that the work carried out in the Institute should be of a joint character, that the College and Technical Instruction Committee should undertake and pay the expenses connected with the educational part of the Scheme, and that the County Councils should contribute jointly towards the establishment and maintenance of properly equipped Laboratories for the use of the Medical Officers of Health of the Borough of Cardiff and of the Glamorgan County Council. It was suggested that the Educational part of the Scheme should comprise a course of special instruction in Hygiene for qualified medical men desirous of obtaining a degree or diploma in Public Health, a course of instruction in Hygiene and Public

Health to meet the requirements of medical students for their ordinary medical and surgical qualifications, and Lectures and Demonstrations in Sanitary Science for those desirous of being trained as Sanitary Inspectors, as well as Lectures and Evening Classes for the general public, with the necessary Museum, lecture rooms and appliances.

The work to be undertaken in the Laboratories which would be more directly connected with the County Councils as Sanitary authorities would comprise all branches of preventive medicine requiring the aid of chemical and bacteriological analysis and methods, and associated directly with a most important part of the work of their Medical Officers of Health. The Committee felt that in view of the increasing importance attaching to the study of micro-organisms in their relation to infectious diseases, a well equipped Laboratory would contribute to the efficiency of the Public Health Departments of the Sanitary Authorities.

It is to be regretted that the difficulties of getting the several Public Bodies to combine for the above purposes have as yet proved insurmountable, and that the educational part of the Scheme will not probably be carried out at present.

The Glamorgan County Council has made a grant of money which will be sufficient to establish a Laboratory on a small scale, and are anxious to obtain the co-operation of your Sanitary Authority. The matter will doubtless soon obtain your favourable consideration.

There is nothing to prevent your Authority, either in combination with other Authorities, or alone, carrying out that part of the scheme which is directly related to Public Health Work, leaving the educational part to those bodies more immediately concerned with the matter. I need hardly point out that a Laboratory of this kind would be of great service to the Medical Officer of Health's Department in many ways. It is of practical importance to the Department and to the public to be able to determine, in cases of suspected infectious disease, the presence or absence of specific micro-organisms. Without a bacterioscopic examination it is often extremely difficult, or impossible in certain cases, to diagnose with certainty the nature of the disease.

Investigations of this kind are often necessary in order to determine the duration of infection in any particular case and are more particularly necessary, and of interest, in cases of Diphtheria, Tuberculosis, Cholera and Typhoid fever, as well as in other diseases which are communicable from animals to man. Laboratory work is also essential for the proper examination of various foods, particularly Milk, which is known sometimes to be the means of conveying infectious disease. In the same way examinations of air, water and sewage effluents could be undertaken. The regular and systematic bacteriological examination of the public water supply would be of value to the Water Engineer as a guide to the action and efficiency of his filter beds. In a large seaport like Cardiff it would be an advantage to the Sanitary Authority and to the Port to be able to submit to examination without delay material from cases of suspected Cholera, brought into the port by shipping from abroad. A decision promptly arrived at in doubtful cases might very frequently be of the utmost service to the shipping interest as well as an indication of the line of action to be taken by the Sanitary Authority in each case. Such work, more particularly that connected with diphtheria and typhoid fever, is now being carried out by several Sanitary Authorities, amongst others the Vestries of St. Pancras, St. Olave, Clerkenwell, Fulham, St. Marylebone, Holborn, and the Strand, the Corporations of Brighton, Bristol, Manchester and Liverpool, in all of which places very complete arrangements have been made by the respective Public Health Departments of these Municipalities.

## SALE OF FOOD AND DRUGS ACT.

The following articles were analysed during the year by Mr. Thomas Hughes, F.I.C., F.C.S., Borough Analyst.

| Samples obtained. | Number of Samples. | Number of Genuine Samples. | Number of Samples Adulterated. | Fines. |
|---|---|---|---|---|
| Milk ... ... | 418 | 407 | 11 | £4 and costs (2); £5 and costs; £3 and costs; £2 and costs; 10/- and costs (3); 40/- and costs; 5/- and costs; Dismissed. |
| Butter ... ... | 35 | 35 | ... | |
| Coffee ... ... | 12 | 12 | ... | |
| Flour ... ... | 6 | 6 | ... | |
| Bread ... ... | 12 | 12 | ... | |
| Sago ... ... | 24 | 24 | ... | |
| Demerara Sugar ... | 6 | 6 | ... | |
| Margarine ... ... | 2 | 2 | ... | MARGARINE. —Exposing for sale without being properly labelled:—£3 and costs (1); 20/- and costs (1). |
| Vinegar ... .. | 12 | 3 | 9 | £3 and costs (3); £2 and costs (1); £1 and costs (2); Cautioned (1); Withdrawn (1); Dismissed (1). |
| Cheese ... ... | 18 | 18 | ... | |
| Ginger ... ... | 6 | 6 | ... | |
| Gingerbread ... | 6 | 6 | ... | |
| Glycerine ... ... | 13 | 13 | ... | |
| Whisky ... ... | 4 | 4 | ... | |
| Brandy ... ... | 4 | 3 | 1 | 5/- and costs. |
| Sweets ... ... | 18 | 18 | ... | |
| Tapioca ... ... | 6 | 6 | ... | |
| Total ... ... | 602 | 581 | 21 | |

## MAGISTERIAL PROCEEDINGS.

| | No. of Cases. | Fines. £ | s. | d. |
|---|---|---|---|---|
| Proceedings under Sale of Food and Drugs Act ... ... | 21 ... | 39 | 0 | 0 |
| Proceedings under Seamen's Bye-Laws ... .. ... | 18 ... | 14 | 4 | 0 |
| Proceedings under Common Lodging Houses Bye-Laws ... | 1 ... | 5 | 0 | 0 |
| Proceedings under Cowshed and Milkshops Order ... .. | 1 ... | 1 | 0 | 0 |
| Proceedings under Town Police Clauses Act, Section 28 ... | 1 ... | 0 | 5 | 0 |
| Proceedings under Section 6 Infectious Diseases Prevention Act, for refusing to deliver up Bedding, &c. ... ... | 1 ... | 0 | 5 | 0 |
| Bodies removed ... ... ... ... ... ... ... | 2 ... | | — | |
| | | £59 | 14 | 0 |

In conclusion, I have the pleasure of reporting that your Inspectors of Nuisances have carried out their work in a satisfactory manner, and that they have, as usual, paid the greatest attention to their varied and important duties.

I have the honour to be, Gentlemen,

Your obedient servant,

EDWARD WALFORD, M.D.,

MEDICAL OFFICER OF HEALTH.

## Report of Mr. D. VAUGHAN, Chief Inspector of Nuisances, and Inspector of Canal Boats, for the Year 1897.

NUISANCES :—

| | |
|---|---|
| Nuisances inspected | 2,770 |
| Notices issued | 2,582 |
| Nuisances abated without legal proceedings | 2,552 |
| ,, ,, with ,, | 30 |
| Animals kept so as to be a nuisance | 44 |
| Injurious and foul accumulations | 374 |
| Nuisance from Smoke | 2 |
| Cesspools and Privies cleansed | 1 |
| ,, abolished | 1 |
| Defective drainage | 860 |
| Drains unstopped and cleansed | 217 |
| ,, trapped and repaired | 234 |
| ,, tested | 487 |
| ,, found defective | 289 |
| Foul and offensive W.C.s. cleansed | 91 |
| Defective apparatus to water closets repaired | 30 |
| Water laid on to waterclosets | 20 |
| ,, ,, urinals | 2 |
| ,, ,, dwelling houses | 16 |
| Offensive W.C.s. abolished | - |
| Over-crowding notices | 3 |
| Dilapidated houses repaired | 420 |
| Dirty houses and workshops cleansed and lime-washed | 115 |
| Additional W.C. accommodation provided | 15 |

DISINFECTION :—

| | |
|---|---|
| Houses disinfected | 1,145 |
| Articles of bedding and clothing disinfected | 21,880 |
| ,, ,, ,, destroyed | 150 |

OFFENSIVE TRADES :—

| | |
|---|---|
| Premises visited | 683 |

SLAUGHTER HOUSES AND MARKETS :—

| | |
|---|---|
| Visits paid to slaughter houses | 322 |
| ,, ,, markets | 358 |
| Articles destroyed unfit for food—Beef, 6,022 lbs.; Fish, 976 lbs.; Pork, 3,630 lbs.; [Tomatoes, 56 lbs.; Mutton, 196 lbs. | |
| Butchers' and provision shops inspected | 885 |

COWSHEDS AND MILKSHOPS :—

| | |
|---|---|
| Number of Cowkeepers on register | 47 |
| ,, Milksellers ,, | 571 |
| Total | 618 |

| | | |
|---|---|---|
| Number of Cowkeepers registered during the year ... ... ... ... | | 3 |
| ,, Milksellers ,, ,, ,, ... ... ... ... | | 111 |
| | Total ... | 114 |
| Number of visits paid to cowsheds ... ... ... ... ... | | 413 |
| ,, ,, milkshops ... ... ... ... ... | | 657 |
| Notices served ... ... ... ... ... ... ... | | 199 |
| | Total ... | 1,269 |

## COWSHEDS, MILKSHOPS AND DAIRIES.

| Particulars of Inspection. | Cowsheds. | Milkshops. |
|---|---|---|
| Total number inspected ... ... ... ... ... | 413 | 957 |
| Found in good condition... ... ... ... ... | 298 | 873 |
| Impure water supply ... ... ... ... ... | ... | ... |
| Water closets, sinks, or drains defective ... ... ... | 5 | 31 |
| Receptacles for manure erected ... ... ... ... | 1 | ... |
| Yards badly paved and accumulations of rubbish ... ... | 11 | 28 |
| Dairies or milkshops used for purposes incompatible with proper preservation of milk ... ... ... ... ... | ... | 1 |
| Infectious disease amongst persons employed ... ... ... | ... | 11 |
| Cowsheds with defective lighting, cleansing, ventilation of air space, and lime washing . . ... ... ... ... | 97 | 24 |

## CANAL BOATS.

| | |
|---|---|
| Number of boats on register ... ... ... ... | 50 |
| ,, inspections ... ... ... ... | 103 |
| ,, boats found in good condition ... ... ... | 74 |
| ,, ,, ,, with wrong register number ... ... | 7 |
| ,, ,, ,, ,, defective ventilation ... ... | 16 |
| ,, ,, ,, ,, change of masters ... ... | 1 |
| ,, notices, verbal or otherwise, served and complied with ... | 27 |
| Water casks not properly provided ... ... ... ... | 4 |
| Certificates cancelled ... ... ... ... ... | 4 |

# APPENDIX.

## METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1897.

| MONTH. | Attached Thermometer. | Barometer: Inches. | TEMPERATURE IN SHADE. | | | | | | | HYGROMETER. | | | RAINFALL. | | | | DEATH RATE Per 1,000. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum. | Minimum. | Mean of Maximum. | Mean of Minimum. | Mean of Month. | Earth. 1 foot. | Earth. 4 feet. | Dry Bulb. | Wet Bulb. | Relative Humidity. | Amount in Inches. | Greatest Fall in 24 hours. | Date of Greatest Fall. | Days on which 0·01 or more rain fell. | All Causes. | Seven Chief Zymotic Diseases. |
| January .. | 48 | 29·840 | 49·8 | 22·0 | 39·9 | 31·9 | 35·9 | 48·6 | 43·0 | 35·7 | 34·4 | 87 | 3·78 | ·50 | 31 | 17 | 16·5 | 1·69 |
| February .. | 51 | 29·876 | 53·5 | 29·8 | 47·4 | 39·7 | 43·5 | 48·6 | 41·7 | 42·4 | 41·2 | 90 | 5·73 | ·70 | 4 | 21 | 13·9 | 1·12 |
| March .. | 52 | 29·647 | 56·8 | 31·0 | 51·0 | 38·3 | 44·6 | 45·0 | 44·8 | 51·0 | 38·3 | 83 | 6·29 | ·90 | 21 | 19 | 16·6 | 2·30 |
| April .. .. | 53 | 29·826 | 66·8 | 30·0 | 52·5 | 40·2 | 46·3 | 48·4 | 47·4 | 46·4 | 43·3 | 78 | 8·18 | ·90 | 13 | 20 | 14·9 | 1·62 |
| May .. .. | 58 | 29·946 | 72·5 | 30·0 | 57·7 | 40·5 | 49·1 | 54·0 | 50·1 | 50·0 | 45·0 | 68 | 2·29 | ·50 | 29 | 8 | 11·7 | 1·55 |
| June .. .. | 63 | 30·075 | 78·8 | 41·2 | 67·1 | 51·9 | 59·5 | 60·2 | 56·7 | 59·3 | 36·5 | 83 | 5·02 | ·90 | 8 | 11 | 14·7 | 1·86 |
| July .. .. | 66 | 29·991 | 81·2 | 37·8 | 71·7 | 53·8 | 62·7 | 65·8 | 61·4 | 62·7 | 60·7 | 84 | 2·51 | ·80 | 6 | 8 | 12·2 | 1·34 |
| August .. | 67 | 29·818 | 85·4 | 49·8 | 68·4 | 53·4 | 60·9 | 65·3 | 63·0 | 62·5 | 57·4 | 71 | 5·42 | 1·30 | 30 | 16 | 20·1 | 6·41 |
| September .. | 59 | 30·005 | 67·5 | 35·8 | 62·1 | 46·7 | 54·4 | 59·3 | 61·8 | 55·8 | 52·5 | 79 | 6·37 | 1·38 | 29 | 13 | 13·2 | 1·86 |
| October .. | 59 | 30·129 | 65·8 | 31·2 | 58·1 | 44·3 | 51·2 | 54·1 | 56·7 | 51·5 | 48·9 | 82 | 3·32 | ·90 | 2 | 7 | 10·2 | 1·41 |
| November .. | 56 | 31·474 | 61·5 | 30·2 | 52·9 | 40·1 | 46·1 | 49·5 | 52·7 | 44·9 | 44·5 | 97 | 1·82 | ·63 | 27 | 7 | 13·3 | 1·47 |
| December .. | 54 | 32·784 | 55·8 | 23·5 | 47·9 | 37·2 | 42·5 | 43·4 | 48·4 | 41·6 | 40·3 | 89 | 6·06 | 1·19 | 7 | 18 | 14·6 | 1·62 |

Mean Temperature of each month in the year, as compared with that of the previous five years.

| Month. | 1891 | 1892 | 1893 | 1894 | 1895 | Mean of 5 years. | 1896 | 1897 |
|---|---|---|---|---|---|---|---|---|
| January .. | 35°8 | 36°2 | 36°8 | 39°4 | 35°5 | 36°3 | 41°6 | 35°9 |
| February .. | 41°6 | 38°6 | 42°2 | 43°0 | 29°3 | 38°9 | 40°8 | 43°5 |
| March .. | 40°8 | 35°9 | 47°1 | 44°4 | 41°6 | 41°9 | 45°9 | 44°6 |
| April .. | 45°5 | 43°2 | 53°0 | 47°0 | 47°9 | 47°3 | 48°0 | 46°3 |
| May .. | 50°9 | 50°7 | 57°3 | 49°7 | 54°4 | 52°6 | 52°9 | 49°1 |
| June .. | 60°2 | 54°5 | 62°4 | 57°1 | 58°5 | 58°5 | 61°4 | 59°5 |
| July .. | 60°2 | 64°1 | 63°6 | 60°3 | 60°0 | 61°6 | 61°4 | 62°7 |
| August .. | 56°4 | 61°3 | 64°8 | 57°5 | 59°0 | 59°8 | 58°6 | 60°9 |
| September .. | 57°0 | 56°0 | 57°1 | 53°2 | 59°7 | 56°6 | 56°8 | 54°4 |
| October .. | 48°8 | 42°9 | 51°0 | 50°3 | 46°7 | 47°9 | 46°2 | 51°2 |
| November .. | 41°7 | 43°8 | 43°2 | 47°2 | 47°2 | 44°6 | 39°9 | 46°1 |
| December .. | 40°4 | 35°8 | 42°1 | 41°8 | 40°0 | 40°0 | 40°0 | 42°5 |

The following Table illustrates the daily direction of Wind throughout the year 1897.

| Direction of Wind. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year 1897. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N. .. | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | .. | 3 | .. | 6 |
| N.E. .. | 18 | 10 | 2 | 4 | 7 | 5 | 4 | 1 | 4 | 8 | 11 | 10 | 84 |
| N.W. .. | 6 | 2 | 2 | 1 | 5 | 1 | 1 | 1 | 7 | .. | 4 | 1 | 31 |
| N.N.E .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| N.N.W. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| S. .. | .. | .. | 2 | 3 | 1 | .. | 1 | 3 | 2 | .. | 4 | 2 | 18 |
| S.E. .. | 3 | 4 | 5 | 5 | 4 | 9 | 4 | 4 | 1 | 10 | 2 | 6 | 57 |
| S.W. .. | 1 | 7 | 15 | 11 | 4 | 5 | 9 | 11 | 7 | 11 | 2 | 9 | 92 |
| S.S.E .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| S.S.W. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| E. .. | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 3 | 3 | .. | 3 | .. | 25 |
| W. .. | 2 | 2 | 3 | 4 | 7 | 7 | 7 | 8 | 6 | 2 | 1 | 3 | 52 |

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-TWO YEARS, 1876—1897.

| YEAR. | JANUARY. | | | | FEBRUARY. | | | | MARCH. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. |
| 1876 | 1·91 | 12 | 0·68 | 2nd | 5·33 | 22 | 0·90 | 14th | 3·92 | 22 | 0·54 | 9th |
| 1877 | 5·77 | 27 | 0·72 | 3rd | 2·79 | 20 | 0·42 | 11th | 2·66 | 21 | 0·55 | 23rd |
| 1878 | 1·73 | 17 | 0·36 | 27th | 3·07 | 16 | 0·87 | 27th | 1·25 | 8 | 0·40 | 28th |
| 1879 | 5·95 | 10 | 1·30 | 1st | 5·95 | 23 | 0·86 | 20th | 1·14 | 14 | 0·32 | 23rd |
| 1880 | 0·87 | 11 | 0·42 | 13th | 3·88 | 22 | 1·06 | 18th | 1·90 | 12 | 0·75 | 2nd |
| 1881 | 0·92 | 12 | 0·23 | 26th | 4·81 | 15 | 1·12 | 9th | 3·88 | 16 | 0·68 | 3rd |
| 1882 | 3·19 | 13 | 0·82 | 2nd | 2·56 | 15 | 0·60 | 28th | 2·26 | 19 | 0·32 | 1st |
| 1883 | 5·75 | 25 | 1·11 | 24th | 3·73 | 20 | 0·65 | 10th | 0·60 | 10 | 0·12 | 19th |
| 1884 | 6·03 | 21 | 0·99 | 31st | 4·40 | 22 | 1·35 | 17th | 3·39 | 16 | 1·27 | 3rd |
| 1885 | 3·71 | 20 | 0·58 | 9th | 3·65 | 22 | 0·67 | 26th | 1·87 | 16 | 0·53 | 29th |
| 1886 | 5·03 | 23 | 0·91 | 30th | 1·32 | 11 | 0·62 | 28th | 3·97 | 13 | 0·68 | 20th |
| 1887 | 2·76 | 15 | 0·73 | 7th | 1·45 | 6 | 0·73 | 3rd | 3·21 | 10 | 1·16 | 15th |
| 1888 | 1·70 | 12 | 0·49 | 1st | 1·07 | 9 | 1·09 | 2nd | 4·62 | 15 | 0·76 | 24th |
| 1889 | 1·58 | 10 | 0·58 | 9th | 2·00 | 16 | 0·64 | 10th | 3·89 | 16 | 1·17 | 8th |
| 1890 | 5·21 | 24 | 0·61 | 26th | 0·55 | 7 | 0·22 | 19th | 1·52 | 14 | 0·28 | 24th |
| 1891 | 3·58 | 13 | 1·26 | 23rd | 0·05 | 2 | 0·03 | 2nd | 1·76 | 16 | 0·31 | 15th |
| 1892 | 2·10 | 15 | 0·70 | 16th | 2·38 | 19 | 0·58 | 20th | 1·18 | 6 | 0·48 | 15th |
| 1893 | 2·38 | 19 | 0·94 | 12th | 6·04 | 22 | 0·95 | 25th | 0·31 | 6 | 0·14 | 2nd |
| 1894 | 3·20 | 23 | 0·44 | 19th | 3·68 | 20 | 0·78 | 17th | 3·37 | 13 | 0·82 | 1st |
| 1895 | 3·88 | 20 | 0·71 | 19th | 0·17 | 4 | 0·08 | 24th | 3·92 | 21 | 0·85 | 27th |
| 1896 | 0·64 | 6 | 0·40 | 24th | 1·39 | 9 | 0·80 | 13th | 4·47 | 24 | 0·54 | 7th |
| 1897 | 3·78 | 17 | 0·50 | 31st | 5·73 | 21 | 0·70 | 4th | 6·29 | 19 | 0·90 | 21st |

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-TWO YEARS, 1876—1897.

| YEAR. | APRIL. | | | | MAY. | | | | JUNE. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. |
| 1876 | 1·91 | 17 | 0·38 | 28th | 0·23 | 4 | 0·12 | 24th | 1·91 | 9 | 0·52 | 15th |
| 1877 | 2·90 | 20 | 0·52 | 20th | 2·47 | 14 | 0·99 | 16th | 1·48 | 12 | 0·41 | 1st |
| 1878 | 4·10 | 21 | 0·75 | 9th | 4·32 | 24 | 0·71 | 16th | 3·68 | 15 | 1·65 | 16th |
| 1879 | 2·64 | 17 | 0·73 | 19th | 2·85 | 15 | 0·88 | 29th | 6·48 | 23 | 1·64 | 30th |
| 1880 | 1·98 | 13 | 0·40 | 5th | 1·45 | 11 | 0·46 | 26th | 2·38 | 19 | 0·53 | 17th |
| 1881 | 1·44 | 7 | 0·60 | 13th | 2·62 | 10 | 1·73 | 17th | 3·59 | 18 | 0·63 | 16th |
| 1882 | 5·68 | 20 | 0·60 | 12th | 2·72 | 13 | 0·59 | 22nd | 4·28 | 20 | 0·82 | 5th |
| 1883 | 0·67 | 7 | 0·28 | 26th | 1·90 | 12 | 0·70 | 11th | 18·1 | 17 | 1·16 | 27th |
| 1884 | 1·56 | 11 | 0·43 | 3rd | 2·37 | 14 | 0·50 | 2nd | 1·92 | 9 | 1·11 | 28th |
| 1885 | 2·52 | 16 | 0·67 | 1st | 3·86 | 27 | 0·71 | 19th | 2·61 | 13 | 1·04 | 23rd |
| 1886 | 2·98 | 15 | 0·73 | 7th | 6·38 | 19 | 1·52 | 31st | 0·70 | 7 | 0·28 | 1st |
| 1887 | 1·63 | 10 | 0·45 | 26th | 1·94 | 14 | 0·63 | 19th | 0·60 | 4 | 0·51 | 2nd |
| 1888 | 1·48 | 13 | 0·30 | 17th | 1·69 | 8 | 0·40 | 17th | 3·69 | 17 | 0·71 | 17th |
| 1889 | 3·54 | 18 | 0·71 | 30th | 2·51 | 16 | 0·38 | 31st | 0·58 | 6 | 0·41 | 1st |
| 1890 | 1·80 | 14 | 0·34 | 6th | 1·99 | 13 | 0·66 | 9th | 2·46 | 17 | 0·40 | 10th |
| 1891 | 2·02 | 11 | 0·40 | 2nd | 3·41 | 17 | 0·75 | 21st | 2·47 | 12 | 1·30 | 24th |
| 1892 | 1·27 | 9 | 0·43 | 20th | 1·35 | 11 | 0·66 | 27th | 1·93 | 10 | 0·61 | 28th |
| 1893 | 0·29 | 5 | 0·16 | 1st | 2·80 | 12 | 0·72 | 19th | 0·67 | 9 | 0·23 | 22nd |
| 1894 | 2·05 | 15 | 0·41 | 23rd | 2·18 | 15 | 0·50 | 15th | 2·43 | 16 | 0·64 | 3rd |
| 1895 | 2·08 | 12 | 0·55 | 24th | 0·50 | 3 | 0·41 | 31st | 1·15 | 9 | 0·32 | 30th |
| 1896 | 2·83 | 14 | 0·80 | 15th | 0·22 | 3 | 0·14 | 13th | 2·48 | 11 | 1·00 | 7th |
| 1897 | 8·18 | 20 | 0·90 | 13th | 2·29 | 8 | 0·50 | 29th | 5·02 | 11 | 0·90 | 8th |

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-TWO YEARS, 1876—1897.

| YEAR. | JULY. | | | | AUGUST. | | | | SEPTEMBER. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. |
| 1876 | 1·91 | 10 | 0·41 | 6th | 6·06 | 27 | 2·72 | 19th | 7·08 | 19 | 1·28 | 30th |
| 1877 | 4·94 | 18 | 1·27 | 14th | 5·70 | 21 | 1·14 | 27th | 3·25 | 8 | 1·39 | 27th |
| 1878 | 2·01 | 9 | 0·78 | 23rd | 10·82 | 24 | 3·64 | 15th | 3·21 | 9 | 1·28 | 22nd |
| 1879 | 4·00 | 21 | 0·81 | 19th | 8·12 | 22 | 1·34 | 27th | 4·85 | 17 | 0·69 | 7th |
| 1880 | 6·64 | 23 | 0·95 | 17th | 0·77 | 7 | 0·27 | 2nd | 3·67 | 15 | 0·77 | 17th |
| 1881 | 2·62 | 15 | 0·77 | 30th | 6·94 | 20 | 1·45 | 22nd | 2·09 | 13 | 0·48 | 22nd |
| 1882 | 5·77 | 21 | 0·84 | 6th | 6·75 | 16 | 1·14 | 22nd | 3 94 | 17 | 0·79 | 28th |
| 1883 | 3·56 | 21 | 0·82 | 20th | 2·09 | 16 | 0·73 | 8th | 6·14 | 19 | 1·53 | 23rd |
| 1884 | 4·05 | 20 | 0·94 | 23rd | 2·21 | 9 | 0 84 | 31st | 1·96 | 15 | 0 64 | 21st |
| 1885 | 0·72 | 6 | 0·31 | 18th | 2·74 | 12 | 1·07 | 6th | 6·51 | 23 | 1·76 | 10th |
| 1886 | 4·85 | 17 | 0·71 | 29th | 1·68 | 9 | 0·44 | 9th | 4·08 | 14 | 0·75 | 4th |
| 1887 | 1·51 | 13 | 0·85 | 26th | 2·88 | 11 | 1·02 | 16th | 4·07 | 17 | 1·24 | 1st |
| 1888 | 6·83 | 25 | 1·16 | 7th | 3·50 | 17 | 0·74 | 29th | 1·21 | 8 | 0·52 | 27th |
| 1889 | 3·85 | 12 | 1·16 | 9th | 3·90 | 15 | 0·65 | 2nd | 2·09 | 9 | 1·53 | 23rd |
| 1890 | 3·57 | 19 | 0·73 | 17th | 3·95 | 20 | 0·95 | 9th | 1·57 | 11 | 0·50 | 17th |
| 1891 | 2·21 | 17 | 0·36 | 2nd | 7·19 | 22 | 1·10 | 26th | 2·43 | 19 | 0·51 | 3rd |
| 1892 | 3·83 | 9 | 1·50 | 12th | 4·64 | 16 | 1·62 | 27th | 3·95 | 14 | 1·38 | 29th |
| 1893 | 3·88 | 17 | 0·80 | 10th | 3·05 | 14 | 0·52 | 20th | 2·03 | 15 | 0·89 | 28th |
| 1894 | 4·22 | 20 | 0·97 | 24th | 4·55 | 18 | 1·55 | 25th | 2·22 | 10 | 0·80 | 22nd |
| 1895 | 4·71 | 15 | 0·94 | 23rd | 4·08 | 17 | 1·19 | 12th | 1·17 | 10 | 0·40 | 6th |
| 1896 | 1·14 | 8 | 0·35 | 24th | 2·89 | 15 | 0·84 | 19th | 7·34 | 23 | 1·10 | 17th |
| 1897 | 2·51 | 8 | 0·80 | 6th | 5·42 | 16 | 1·30 | 30th | 6·37 | 13 | 1·38 | 29th |

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-TWO YEARS, 1876—1897.

| YEAR. | OCTOBER. | | | | NOVEMBER. | | | | DECEMBER. | | | | YEAR. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall in Month. Inches. | Days on which 0·01 or more rain fell. | Greatest fall in 24 hours. | Date of greatest fall. | Rainfall per annum. Inches. |
| 1876 | 3·84 | 17 | 0·62 | 16th | 5·27 | 18 | 0·75 | 12th | 7·13 | 23 | 0·80 | 17th | 46·62 |
| 1877 | 4·89 | 16 | 1·15 | 24th | 6·54 | 25 | 1·06 | 24th | 3·40 | 25 | 0·88 | 28th | 46·79 |
| 1878 | 5·76 | 18 | 1·09 | 23rd | 5·76 | 13 | 0·84 | 9th | 2·70 | 10 | 0·75 | 28th | 45·71 |
| 1879 | 1·51 | 12 | 0·35 | 19th | 0·43 | 8 | 0·18 | 20th | 2·11 | 9 | 0·79 | 31st | 44·79 |
| 1880 | 4·94 | 15 | 1·45 | 25th | 3·67 | 15 | 0·90 | 15th | 6·70 | 20 | 1·09 | 14th | 38·85 |
| 1881 | 3·23 | 13 | 0·72 | 22nd | 4·98 | 23 | 0·65 | 26th | 4·50 | 15 | 1·77 | 7th | 41·62 |
| 1882 | 8·33 | 23 | 1·64 | 23rd | 6·26 | 21 | 0·90 | 7th | 4·86 | 25 | 0·73 | 31st | 56·60 |
| 1883 | 4·23 | 17 | 0·61 | 15th | 6·38 | 24 | 0·80 | 21st | 1·92 | 17 | 0·57 | 10th | 38·78 |
| 1884 | 1·01 | 17 | 0·35 | 8th | 2·12 | 16 | 0·47 | 30th | 5·87 | 20 | 0·68 | 5th | 36·89 |
| 1885 | 5·59 | 22 | 1·60 | 22nd | 5·47 | 16 | 1·11 | 27th | 1·74 | 17 | 0·05 | 5th | 40·99 |
| 1886 | 5·09 | 21 | 0·87 | 15th | 5·39 | 21 | 1·03 | 5th | 6·64 | 21 | 1·33 | 26th | 48·11 |
| 1887 | 2·80 | 13 | 1·14 | 29th | 3·48 | 21 | 0·69 | 3rd | 3·46 | 20 | 0·75 | 12th | 29·79 |
| 1888 | 1·74 | 11 | 0·52 | 28th | 7·04 | 26 | 1·13 | 12th | 3·61 | 16 | 0·88 | 27th | 38·18 |
| 1889 | 3·77 | 25 | 0·48 | 8th | 1·87 | 12 | 0·75 | 24th | 2·40 | 14 | 0·80 | 21st | 31·38 |
| 1890 | 1·92 | 16 | 0·41 | 7th | 3·89 | 20 | 0·67 | 6th | 0·80 | 4 | 0·33 | 18th | 29·23 |
| 1891 | 7·12 | 22 | 1·32 | 18th | 3·91 | 15 | 0·74 | 28th | 6·19 | 19 | 0·78 | 30th | 42·34 |
| 1892 | 2·64 | 15 | 0·51 | 27th | 3·25 | 18 | 0·66 | 4th | 2·23 | 12 | 0·62 | 1st | 22·63 |
| 1893 | 5·98 | 21 | 1·29 | 4th | 2·30 | 13 | 0·58 | 1st | 4·18 | 19 | 0·94 | 12th | 33·91 |
| 1894 | 4·91 | 14 | 1·05 | 21th | 4·72 | 20 | 0·83 | 13th | 3·66 | 20 | 0·51 | 17th | 41·19 |
| 1895 | 3·67 | 15 | 0·94 | 3rd | 4·21 | 23 | 0·60 | 5th | 3·45 | 31 | 0·48 | 17th | 32·64 |
| 1896 | 4·65 | 19 | 0·74 | 5th | 0·96 | 5 | 0·60 | 15th | 6·41 | 22 | 0·72 | 4th | 35·42 |
| 1897 | 3·32 | 7 | 0·90 | 2nd | 1·82 | 7 | 0·63 | 27th | 6·06 | 18 | 1·19 | 7th | 56·80 |

# LOCAL GOVERNMENT BOARD TABLES.

TABLE OF DEATHS DURING THE YEAR 1897, IN THE CARDIFF URBAN SANITARY DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

[A]

| NAMES OF LOCALITIES adopted for the purpose of the Statistics: Public Institutions being shown as separate localities. | MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES. | | | | | | | | MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE. | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | FEVERS. | | | | | | | | | | | | | |
| | At all ages. | Under 1 year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 65. | 65 and upwards. | | Smallpox. | Scarlatina. | Diphtheria. | Membranous Croup. | Typhus. | Enteric or Typhoid. | Continued. | Relapsing. | Puerperal. | Cholera. | Erysipelas. | Measles. | Whooping Cough. | Diarrhœa and Dysentery. | Rheumatic Fever. | Phthisis. | Bronchitis, Pneumonia, and Pleurisy. | Heart Disease. | Influenza. | Injuries. | All other Diseases. | TOTAL. |
| (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) | (i) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Cardiff Urban | | | | | | | | Under 5 | .. | 5 | 52 | 9 | .. | 2 | .. | .. | .. | .. | 1 | 70 | 35 | 123 | 1 | 9 | 173 | 13 | 5 | 17 | 572 | 1,087 |
| Sanitary District | 2204 | 765 | 315 | 118 | 113 | 620 | 273 | 5 upwards | .. | 1 | 22 | 2 | .. | 9 | .. | .. | 5 | .. | 2 | 4 | .. | 11 | 3 | 156 | 170 | 140 | 9 | 50 | 533 | 1,117 |
| | | | | | | | | Under 5 | .. | 8 | 9 | .. | .. | . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 17 |
| Cardiff Sanatorium . | 30 | .. | 17 | 10 | 2 | 1 | .. | 5 upwards | .. | 3 | 6 | .. | .. | 4 | .. | .. | .. | . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 13 |
| | | | | | | | | Under 5 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | 1 | . | .. | 27 | 32 |
| Union .. | 182 | 26 | 7 | 1 | 7 | 97 | 44 | 5 upwards | .. | .. | 1 | .. | .. | 3 | .. | . | .. | .. | .. | .. | .. | .. | .. | 30 | 21 | 14 | .. | 5 | 76 | 150 |
| | | | | | | | | Under 5 | .. | .. | .. | .. | .. | .. | . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 4 | 9 |
| Infirmary . | 105 | 5 | 10 | 6 | 23 | 58 | 3 | 5 upwards | .. | .. | .. | .. | .. | 1 | .. | .. | . | .. | .. | .. | .. | .. | .. | 5 | 7 | 5 | .. | 17 | 61 | 96 |
| | | | | | | | | Under 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | . | .. | .. | .. | .. | .. | . | .. | .. | .. |
| Seamen's Hospital .. | 13 | .. | .. | .. | 3 | 10 | .. | 5 upwards | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 2 | .. | .. | 2 | 3 | 13 |
| | | | | | | | | Under 5 | .. | 13 | 61 | 9 | .. | 3 | .. | .. | .. | .. | 2 | 71 | 35 | 123 | 1 | 9 | 174 | 14 | 5 | 22 | 603 | 1,145 |
| TOTALS .. | 2534 | 796 | 349 | 135 | 148 | 786 | 320 | 5 upwards | .. | 4 | 29 | 2 | .. | 17 | .. | .. | 5 | .. | 2 | 4 | .. | 11 | 3 | 197 | 200 | 159 | 9 | 74 | 673 | 1,389 |

# LOCAL GOVERNMENT BOARD TABLES.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH, DURING THE YEAR 1897, IN THE CARDIFF URBAN SANITARY DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

[B]

| NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities. | POPULATION AT ALL AGES. | | REGISTERED BIRTHS. | AGED UNDER 5 OR OVER 5. | NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH. | | | | | | | | | | | | | NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITALS. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | FEVERS. | | | | | | | | | | | FEVERS. | | | | | | | | | | | | |
| | Last Census | Estimated to middle of 1897. | | | Small Pox. | Scarlatina. | Diphtheria. | Membranous Croup. | Typhus. | Enteric or Typhoid. | Continued. | Relapsing. | Puerperal. | Cholera. | Erysipelas. | | | Small Pox. | Scarlatina. | Diphtheria. | Membranous Croup. | Typhus. | Enteric or Typhoid. | Continued. | Relapsing. | Puerperal. | Cholera. | Erysipelas. | | |
| (a) | (b) | (c) | (d) | (e) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Cardiff Urban | | | | Under 5 | .. | 250 | 147 | 4 | .. | 11 | 1 | .. | .. | .. | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sanitary District | 128,915 | 170,063 | 5,279 | 5 upwards | 7 | 504 | 362 | .. | .. | 92 | 6 | .. | 12 | .. | 145 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | | | Under 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 101 | 29 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Cardiff Sanatorium | .. | .. | .. | 5 upwards | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 284 | 53 | .. | .. | 39 | .. | .. | .. | .. | .. | .. | .. | .. |
| | | | | Under 5 | .. | 1 | 2 | .. | .. | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Union .. | .. | .. | .. | 5 upwards | .. | 1 | 1 | .. | .. | 6 | .. | .. | .. | .. | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | | | Under 5 | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Infirmary .. | .. | .. | .. | 5 upwards | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | | | Under 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Seamen's Hospital | .. | .. | .. | 5 upwards | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | | | Under 5 | .. | 253 | 149 | 4 | .. | 18 | 1 | .. | .. | .. | 9 | .. | .. | .. | 101 | 29 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| TOTALS .. | 128,915 | 170,063 | 5,279 | 5 upwards | 7 | 505 | 363 | .. | .. | 99 | 6 | .. | 13 | .. | 154 | .. | .. | 7 | 284 | 53 | .. | .. | 39 | .. | .. | .. | .. | .. | .. | .. | .. |

# CARDIFF URBAN SANITARY DISTRICT,

*ESTIMATED POPULATION*, 1897—170,063.

## DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES. YEAR, 1897.

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| (CLASSES.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I. Specific Febrile or Zymotic Diseases | 167 | 151 | 17 | 14 | 7 | 1 | 3 | 5 | 1 | 2 | 3 | 6 | 5 | 3 | 4 | 1 | 1 | 2 | .. | .. | 1 | 2 | 5 | .. | 1 | 2 | 1 | 2 | 1 | .. | .. | .. | 1 | 1 | 218 | 192 | 2·410 |
| II. Parasitic Diseases | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| III. Dietic | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| IV. Constitutional | 51 | 47 | 11 | 8 | 7 | 11 | 11 | 20 | 14 | 17 | 11 | 21 | 15 | 19 | 17 | 19 | 13 | 19 | 18 | 15 | 17 | 11 | 13 | 8 | 13 | 6 | 9 | 6 | 6 | 5 | 5 | 1 | .. | .. | 231 | 233 | 2·728 |
| V. Developmental | 50 | 34 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | 6 | 7 | 13 | 9 | 11 | 9 | 12 | 22 | 94 | 84 | 1·046 |
| VI. Local | 254 | 202 | 16 | 15 | 7 | 10 | 15 | 18 | 16 | 14 | 13 | 18 | 19 | 12 | 23 | 32 | 30 | 17 | 26 | 28 | 23 | 24 | 36 | 23 | 42 | 39 | 27 | 36 | 20 | 28 | 20 | 22 | 8 | 12 | 595 | 550 | 6·732 |
| VII. Violence | 8 | 9 | 3 | 1 | 5 | 1 | 2 | .. | 7 | 1 | 9 | 1 | 7 | 1 | 6 | 2 | 8 | 2 | 3 | 2 | 3 | .. | 3 | .. | 3 | .. | 4 | 1 | 3 | .. | .. | .. | 1 | .. | 75 | 21 | 0·564 |
| VIII. Ill-defined and not specified causes | 74 | 98 | .. | .. | .. | .. | 1 | 1 | .. | .. | 4 | 3 | 4 | 1 | 5 | 1 | 9 | 2 | 6 | 3 | 3 | 3 | 3 | 2 | 4 | .. | 3 | .. | .. | 3 | 1 | .. | 2 | 1 | 119 | 118 | 1·393 |
| Total | 604 | 541 | 48 | 38 | 26 | 23 | 32 | 44 | 38 | 34 | 40 | 49 | 51 | 36 | 55 | 55 | 62 | 42 | 53 | 48 | 48 | 40 | 60 | 35 | 64 | 49 | 50 | 52 | 43 | 45 | 37 | 32 | 24 | 36 | 1335 | 1199 | 14·9 |
| **CLASS I.—Specific Febrile or Zymotic Diseases.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MIASMATIC DISEASES. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Small-pox (Vaccinated) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | . | .. | .. |
| Small-pox (Unvaccinated) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Small-pox (No Statement) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chicken-pox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Measles | 40 | 30 | 3 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 44 | 31 | 0·44 |
| Epidemic Rose Rash | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scarlet Fever | 7 | 6 | 2 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | 7 | 0·10 |
| Typhus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Relapsing Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Influenza | 3 | 2 | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | .. | 2 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 8 | 6 | 0·82 |
| Whooping-cough | 15 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 15 | 20 | 0·21 |
| Mumps | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diphtheria | 29 | 32 | 11 | 11 | 3 | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 46 | 44 | 0·53 |
| Cerebro-spinal Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Simple and ill-defined Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Enteric Fever | 1 | 1 | .. | 1 | 2 | .. | 1 | 3 | 1 | .. | 1 | 2 | 3 | .. | 2 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 11 | 9 | 0·11 |
| Other Miasmatic Diseases | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

## DEATHS REGISTERED—*Continued.*

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M | F. | |
| CLASS I.—*Continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diarrhœal Diseases. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Simple Cholera | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diarrhœa, Dysentery | 66 | 57 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 | 1 | 1 | 1 | 1 | .. | .. | .. | 1 | 1 | 72 | 62 | 0·790 |
| Malarial Diseases. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remittent Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ague | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Zoogenous Diseases. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hydrophobia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Glanders | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Splenic Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cowpox and other effects of Vaccination | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Venereal Diseases. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Syphillis | 5 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 4 | 0·058 |
| Gonorrhœa, Stricture of Urethra | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 0·011 |
| Septic Diseases. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phagedæna | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Erysipelas | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 0·017 |
| Pyæmia, Septicæmia | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 0·023 |
| Puerperal Fever | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 0·029 |
| Total | 167 | 151 | 17 | 14 | 7 | 1 | 3 | 5 | 1 | 2 | 3 | 6 | 5 | 3 | 4 | 1 | 1 | 2 | .. | .. | 1 | 2 | 5 | .. | 1 | 2 | 1 | 2 | 1 | .. | .. | .. | 1 | 1 | 218 | 192 | 2·410 |
| **CLASS II.—Parasitic Diseases.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrush | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Other Diseases from Vegetable Parasites | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hydatid Disease | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Other Diseases from Animal Parasites | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

## DEATHS REGISTERED—*Continued.*

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| **CLASS III.—Dietic Diseases.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Starvation, Want of Breast Milk | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scurvy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Intemp. { Chronic Alcoholism | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| Intemp. { Delirium Tremens | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| **CLASS IV.—Constitutional Diseases.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rheumatic Fever, Rheumatism of Heart | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 0·023 |
| Rheumatism | .. | .. | .. | .. | 1 | .. | 1 | .. | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | 1 | .. | .. | .. | 4 | 6 | 0·058 |
| Gout | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rickets | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·011 |
| Cancer | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 3 | 1 | 4 | 2 | 10 | 7 | 10 | 8 | 5 | 6 | 5 | 7 | 6 | 5 | 3 | 3 | 4 | 3 | 1 | .. | .. | 42 | 52 | 0·552 |
| Tabes Mesenterica | .. | 8 | 5 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 6 | 0·082 |
| Tubercular Meningitis (Acute Hydrocephalus) | .. | 30 | 25 | 8 | 3 | 3 | 2 | 1 | 2 | .. | .. | .. | 2 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 44 | 36 | 0·470 |
| Phthisis | .. | 4 | 5 | 1 | 1 | .. | 8 | 9 | 14 | 13 | 13 | 9 | 17 | 14 | 13 | 15 | 12 | 8 | 7 | 10 | 4 | 7 | 5 | 5 | 2 | 3 | .. | 2 | 3 | 1 | 1 | 1 | .. | .. | 101 | 105 | 1·211 |
| Other Forms of Tuberculosis, Scrofula | .. | 7 | 10 | 2 | 3 | 3 | .. | 2 | 2 | 1 | .. | 1 | 1 | 1 | .. | 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 20 | 17 | 0·217 |
| Purpura, Hæmorrhagic Diathesis | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Anæmia, Chlorosis, Leucocythæmia | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| Diabetes Mellitus | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | 2 | .. | .. | .. | 2 | 1 | .. | 1 | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 6 | 0·064 |
| Other Constitutional Diseases | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Total | .. | 51 | 47 | 11 | 8 | 7 | 11 | 11 | 20 | 14 | 17 | 11 | 21 | 15 | 19 | 17 | 19 | 13 | 19 | 18 | 15 | 17 | 11 | 13 | 8 | 13 | 6 | 9 | 6 | 6 | 5 | 5 | 1 | .. | .. | 231 | 233 | 2·728 |
| **CLASS V.—Developmental Diseases.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Premature Birth | .. | 42 | 29 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 42 | 29 | 0·417 |
| Atelectasis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cyanosis | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 0·017 |
| Spina Bifida | .. | 3 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| Imperforate Anus | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Cleft Palate, Harelip | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Other Congenital Defects | .. | 3 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | 0·029 |
| Old Age | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | 6 | 7 | 13 | 9 | 11 | 9 | 12 | 22 | 43 | 56 | 0·546 |
| Total | .. | 50 | 34 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | 6 | 7 | 13 | 9 | 11 | 9 | 12 | 22 | 94 | 84 | 1·046 |

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| **CLASS VI.—Local.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (1.) Diseases of Nervous System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation of Brain or its Membranes | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Apoplexy | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | 2 | 2 | 2 | 2 | 4 | 6 | 2 | 8 | 3 | 2 | 2 | .. | 2 | 1 | 20 | 25 | 0·264 |
| Paralysis | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | 1 | 2 | 5 | 0·041 |
| Softening of Brain | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hemiplegia, Brain Paralysis | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | 3 | .. | .. | 1 | .. | 1 | 1 | 2 | 1 | 2 | .. | .. | 7 | 7 | 0·082 |
| Paralysis, Agitans | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 0·017 |
| Insanity, General Paralysis of Insane | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chorea | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Epilepsy | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 3 | 2 | 0·029 |
| Convulsions | .. | 55 | 47 | 1 | .. | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 59 | 47 | 0·623 |
| Laryngismus Stridulus | .. | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 1 | 0·035 |
| Idiopathic Tetanus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Myelitis | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 0·017 |
| Paraplegia, Diseases of Spinal Cord | .. | 2 | .. | .. | .. | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | 1 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 10 | 2 | 0·070 |
| Other Diseases of Nervous System | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·011 |
| (2.) Diseases of Organs of Special Sense. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Otitis Otorrhœa | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 0·017 |
| Epistaxis and Dis. of Nose | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ophthalmia and Dis. of Eye | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| (3.) Diseases of Circulatory System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endocarditis, Valvular Diseases | .. | 1 | 2 | 1 | 2 | .. | 4 | 4 | 9 | 2 | 3 | 2 | 6 | 4 | 3 | 5 | 12 | 9 | 7 | 4 | 6 | 2 | 6 | 6 | 6 | 8 | 9 | 5 | 15 | 6 | 7 | 5 | 9 | 1 | 2 | 65 | 108 | 1·017 |
| Pericarditis | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 2 | 0·011 |
| Hypertrophy of Heart | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Angina Pectoris | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 4 | 2 | 0·035 |
| Syncope | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | .. | 1 | .. | 1 | .. | .. | .. | 7 | 2 | 0·052 |
| Aneurism | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | .. | 2 | .. | 1 | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 | 1 | 0·058 |
| Senile Gangrene | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 0·011 |
| Embolism, Thrombosis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 3 | 0·017 |
| Phlebitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Varicose Veins | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Other Diseases | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |

## DEATHS REGISTERED—*Continued.*

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M | F. | M. | F. | M | F. | M. | F. | M. | F. | M | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| CLASS VI.—*Continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (4.) Diseases of Respiratory System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Laryngitis | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 0·017 |
| Croup | 5 | 4 | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 4 | 0·062 |
| Other Diseases of Larynx and Trachea | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 0·017 |
| Emphysema, Asthma | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 2 | 1 | .. | .. | 1 | 1 | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | 1 | .. | .. | .. | .. | 7 | 5 | 0·070 |
| Bronchitis | 39 | 34 | 1 | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 1 | 2 | 1 | 1 | 4 | 4 | 9 | 7 | 10 | 8 | 9 | 9 | 2 | 5 | 5 | 4 | 2 | 7 | 84 | 83 | 0·981 |
| Pneumonia | 56 | 46 | 2 | 6 | 1 | 1 | 3 | 2 | 2 | .. | 6 | 1 | 4 | 2 | 6 | 4 | 6 | 1 | 10 | 2 | 4 | 1 | 4 | .. | 5 | 4 | 5 | 1 | 2 | 5 | 2 | 2 | 1 | 1 | 119 | 79 | 1·164 |
| Pleurisy | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 1 | .. | 1 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 3 | 0·052 |
| Other Diseases of Respiratory System | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 0·017 |
| (5.) Diseases of Digestive System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomatitis | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Dentition | 16 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 16 | 14 | 0·176 |
| Sore Throat, Quinsy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dyspepsia | 2 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | 0·035 |
| Hæmatemesis | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 0·035 |
| Melæna | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diseases of Stomach | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 0·035 |
| Gastritis | 10 | 11 | 2 | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 14 | 15 | 0·171 |
| Enteritis | 40 | 24 | 1 | 2 | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 45 | 28 | 0·428 |
| Ulceration of Intestine | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Ileus, Obstruction of Intestine | 4 | 2 | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 | .. | .. | 1 | 1 | 1 | .. | .. | 2 | .. | .. | 1 | .. | 9 | 9 | 0·104 |
| Stricture or Strangulation of Intestine | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Intussusception of Intestine | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Hernia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | .. | .. | 2 | 1 | 1 | 1 | .. | .. | 1 | .. | .. | .. | .. | 5 | 4 | 0·052 |
| Fistula | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Peritonitis | 3 | 3 | 1 | 2 | 1 | .. | 1 | 1 | .. | .. | .. | 1 | 1 | .. | .. | 3 | .. | .. | 1 | .. | .. | 2 | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | 10 | 13 | 0·135 |
| Ascites | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Jaundice | 4 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 4 | 0·052 |
| Gallstones | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hepatitis | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 0·011 |
| Cirrhosis of Liver | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 2 | 3 | .. | .. | 1 | 1 | .. | 2 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 5 | 0·070 |
| Other Diseases of Liver | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 0·023 |
| Other Diseases of Digestive System | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

## DEATHS REGISTERED—*Continued.*

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| CLASS VI.—*Continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (6.) Diseases of Lymphatic System and Ductless Glands. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Disease of Lymphatic System | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 0·011 |
| Disease of Spleen | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| Bronchocle | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Addison's Disease | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| (7.) Diseases of Urinary System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acute Nephritis | .. | .. | 1 | 1 | .. | .. | 1 | 1 | .. | 1 | .. | .. | 1 | 2 | 1 | .. | 3 | 2 | .. | 1 | .. | 1 | 2 | 1 | 2 | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 10 | 13 | 0·135 |
| Bright's Disease | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | .. | .. | .. | 2 | .. | 1 | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 7 | 2 | 0·052 |
| Uræmia | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 0·017 |
| Suppression of Urine | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 0·011 |
| Calculus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hæmaturia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Disease of Bladder and of Prostate | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | 3 | 1 | 0·023 |
| Other Diseases of Urinary System | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 2 | 4 | 0·035 |
| (8.) Diseases of Organs of Generation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Metritis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Ovarian Disease | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 7 | 0·041 |
| Diseases of Uterus and Vagina | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·011 |
| Disorders of Menstruation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Pelvic Abscess | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·011 |
| Perineal Abscess | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diseases of Testes, Penis, Scrotum, &c. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| (9.) Diseases of Parturition. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Childbirth | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 0·023 |
| Abortion, Miscarriage | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·011 |
| Puerperal Mania | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Puerperal Convulsions | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Placenta Prævia, Flooding | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0·005 |
| Phlegmasia Dolens | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Other Accidents of Childbirth | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 0·023 |

## DEATHS REGISTERED—*Continued.*

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M | F. | M. | F. | M. | F. | M | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| CLASS VI.—*Continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (10.) Diseases of Organs of Locomotion. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Caries, Necrosis | .. | .. | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | 0·029 |
| Arthritis, Ostitis, Periostitis | .. | .. | .. | .. | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 0·023 |
| Other Diseases of Organs of Locomotion | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| (11.) Diseases of Integumentary System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carbuncle | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Phlegmon, Cellulitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Lupus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ulcer, Bedsore | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 0·011 |
| Eczema | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0·017 |
| Pemphigus | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0·011 |
| Other Diseases of Integumentary System | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | .. | .. | 254 | 202 | 16 | 15 | 7 | 10 | 15 | 18 | 16 | 14 | 13 | 18 | 9 | 12 | 23 | 32 | 30 | 17 | 26 | 28 | 23 | 24 | 36 | 23 | 42 | 39 | 27 | 36 | 20 | 28 | 20 | 22 | 8 | 12 | 595 | 550 | 6·732 |
| **CLASS VII.—Violence.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Accident or Negligence. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fractures, Contusions | .. | .. | 1 | 1 | .. | 1 | 1 | 1 | .. | 5 | .. | 3 | .. | 3 | .. | 4 | .. | 3 | 1 | 3 | 1 | 1 | .. | 3 | .. | 2 | .. | 2 | 1 | 1 | .. | .. | .. | 1 | .. | 34 | 5 | 0·229 |
| Gunshot Wounds | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cut, Stab | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Burn, Scald | .. | .. | 4 | 4 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 6 | 0·062 |
| Poison | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 0·011 |
| Drowning | . | . | 2 | .. | 1 | .. | 2 | .. | 1 | .. | .. | 1 | 4 | .. | 3 | .. | 1 | .. | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 19 | 1 | 0·117 |
| Suffocation | .. | .. | 1 | 2 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 4 | 4 | 0·043 |
| Otherwise | .. | .. | 1 | 1 | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | 5 | 2 | 0·041 |
| Homicide. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Murder, Manslaughter | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 0·017 |
| Wounds in Battle | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

# CANCER

The table below shows the deaths from cancer during the year, compared with those for 1963.

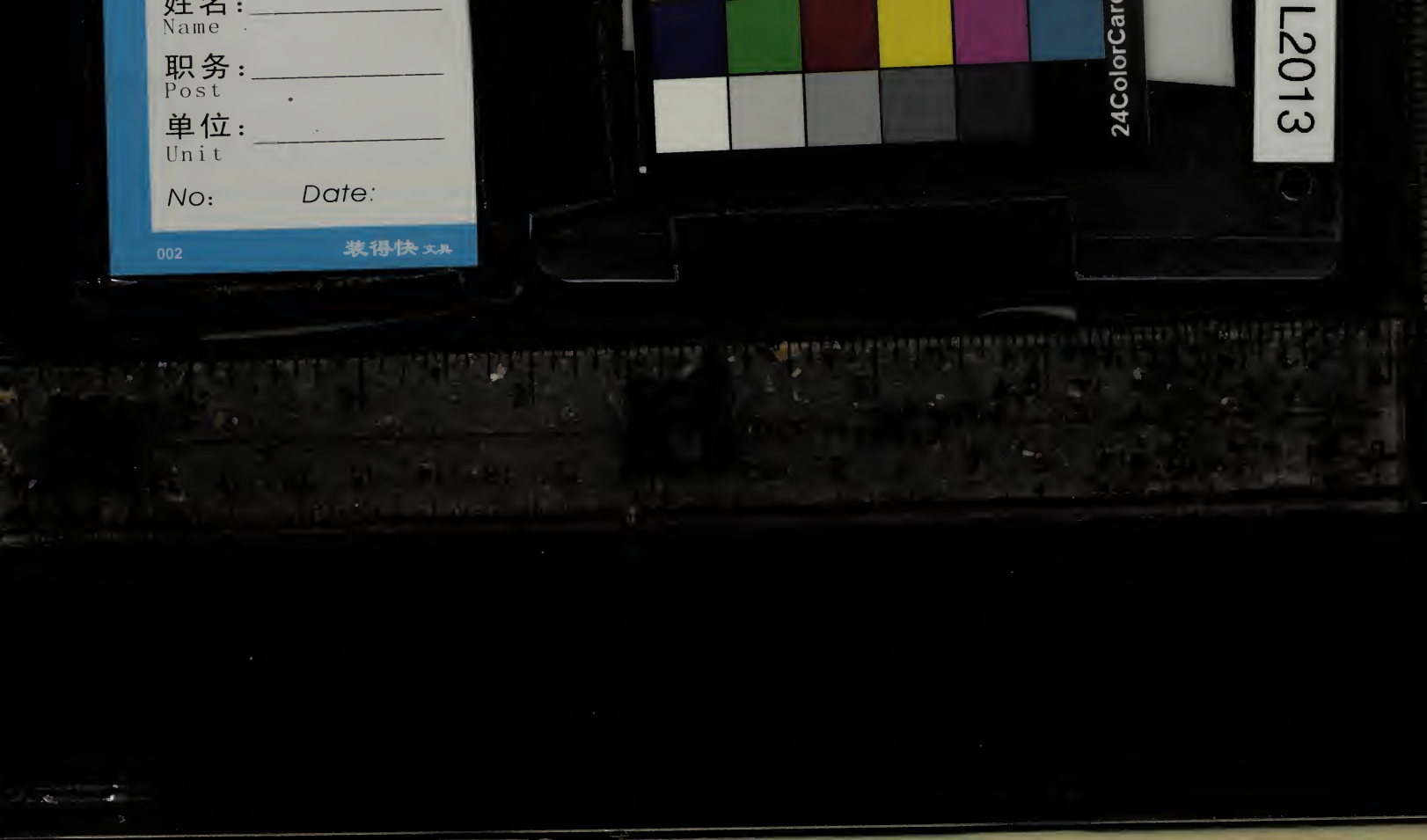
**DEATHS FROM CANCER**

| SITE | 1-4 M | 1-4 F | 5-14 M | 5-14 F | 15-24 M | 15-24 F | 25-34 M | 25-34 F | 35-44 M | 35-44 F | 45-54 M | 45-54 F | 55-64 M | 55-64 F | 65-74 M | 65-74 F | 75-over M | 75-over F | Total M | Total F | Grand Total 1964 | Grand Total 1963 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Malignant neoplasm, stomach ... ... ... | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — | — | 1 | — | 1 | 2 | 2 | **4** | 4 |
| Malignant neoplasm, lung, bronchus ... ... | — | — | — | — | — | — | — | — | — | 1 | 1 | 1 | 5 | 5 | 4 | — | 2 | — | 12 | 7 | **19** | 16 |
| Malignant neoplasm, breast ... ... ... | — | — | — | — | — | — | — | — | — | — | — | — | — | 3 | 1 | 1 | — | 1 | 1 | 5 | **6** | 6 |
| Malignant neoplasm, uterus ... ... ... | — | — | — | — | — | — | — | — | — | — | — | 1 | — | 1 | — | 2 | — | 1 | — | 5 | **5** | — |
| Other malignant and lymphatic neoplasms ... | — | — | — | — | — | — | — | — | — | — | 2 | 2 | 4 | 6 | 4 | 4 | 7 | 3 | 17 | 15 | **32** | 34 |
| Leukaemia, aleukaemia .. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | — | 2 | — | **2** | 4 |
| 1964 ... | — | — | — | — | — | — | — | — | — | 1 | 3 | 4 | 11 | 15 | 9 | 8 | 11 | 6 | 34 | 34 | **68** | — |
| 1963 ... | 1 | 1 | — | — | — | — | — | 2 | 1 | 2 | 1 | 4 | 8 | 5 | 8 | 6 | 8 | 17 | 27 | 37 | — | 64 |

# REPORT OF THE CHIEF HEALTH INSPECTOR

of visits and inspections made during the lars of which are set out in the following

| | |
|---|---|
| ic Health and Housing Acts ... | 582 |
| spected ... ... ... ... | 385 |
| .. ... ... ... ... ... | 135 |
| .. ... ... ... ... ... | 2 |
| .. ... ... ... ... ... | 21 |
| **ps** | 122 |
| **Preparing Places** | |
| Preparing Places ... ... ... | 514 |
| .. ... ... ... ... ... | 8 |
| .. ... ... ... ... ... | 25 |
| ens ... ... ... ... ... | 53 |
| utchers' Shops ... ... ... | 197 |
| .. ... ... ... ... ... | 42 |
| s ... ... ... ... ... | 109 |
| .. ... ... ... ... ... | 28 |
| .. ... ... ... ... ... | 204 |
| .. ... ... ... ... ... | 1,088 |
| .. ... ... ... ... ... | 199 |
| .. ... ... ... ... ... | 119 |
| .. ... ... ... ... ... | 16 |
| .. ... ... ... ... ... | 504 |
| .. ... ... ... ... ... | 447 |
| epots re Cesspool Emptying and ... ... ... ... ... | 82 |
| Visits ... ... ... ... | 412 |


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# AL REPORT

OF THE

## Officer of Health

For the Year

## 1963

## DEATHS REGISTERED—*Continued.*

| Causes of Death. | 0 to 5 | | 5 to 10 | | 10 to 15 | | 15 to 20 | | 20 to 25 | | 25 to 30 | | 30 to 35 | | 35 to 40 | | 40 to 45 | | 45 to 50 | | 50 to 55 | | 55 to 60 | | 60 to 65 | | 65 to 70 | | 70 to 75 | | 75 to 80 | | 80 & upwards | | Total. | | Death Rate per 1,000. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| CLASS VII.—*Continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUICIDE. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gunshot Wounds | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Cut, Stab | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 0·011 |
| Poison | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Drowning | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 0·005 |
| Hanging | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 0·017 |
| Otherwise | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| EXECUTION. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hanging | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 8 | 9 | 3 | 1 | 5 | 1 | 2 | .. | 7 | 1 | 9 | 1 | 7 | 1 | 6 | 2 | 8 | 2 | 3 | 2 | 3 | .. | 3 | .. | 3 | .. | 4 | 1 | 3 | .. | .. | .. | 1 | .. | 75 | 21 | 0·564 |
| **CLASS VIII.—Ill-defined and not Specified Causes.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dropsy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Debility, Atrophy, Inanition | 65 | 83 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | 2 | 1 | 69 | 86 | 0·911 |
| Mortification | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tumour | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 0·035 |
| Abscess | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 0·017 |
| Hæmorrhage | .. | 2 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 3 | 1 | 2 | 1 | .. | 1 | 1 | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 | 6 | 0·088 |
| Sudden (Cause unascertained) | 2 | 3 | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 | 1 | 2 | .. | 4 | .. | 2 | 1 | 1 | 1 | 1 | .. | 2 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 20 | 8 | 0·161 |
| Other ill-defined and not specified | 5 | 9 | .. | .. | .. | .. | 1 | .. | .. | 1 | 1 | .. | .. | .. | .. | 3 | 1 | 2 | .. | .. | 1 | .. | 1 | 2 | .. | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | 16 | 11 | 0·176 |
| Total | 74 | 98 | .. | .. | .. | .. | 1 | 1 | .. | 4 | 3 | 4 | 1 | 5 | 1 | 9 | 2 | 6 | 3 | 3 | 3 | 3 | 2 | 4 | .. | 3 | .. | .. | 3 | 1 | .. | 2 | 1 | 119 | 118 | 1·393 |

*Chart shewing death-rate per 1,000 of the population from Zymotic Diseases during the Years 1878—1897*

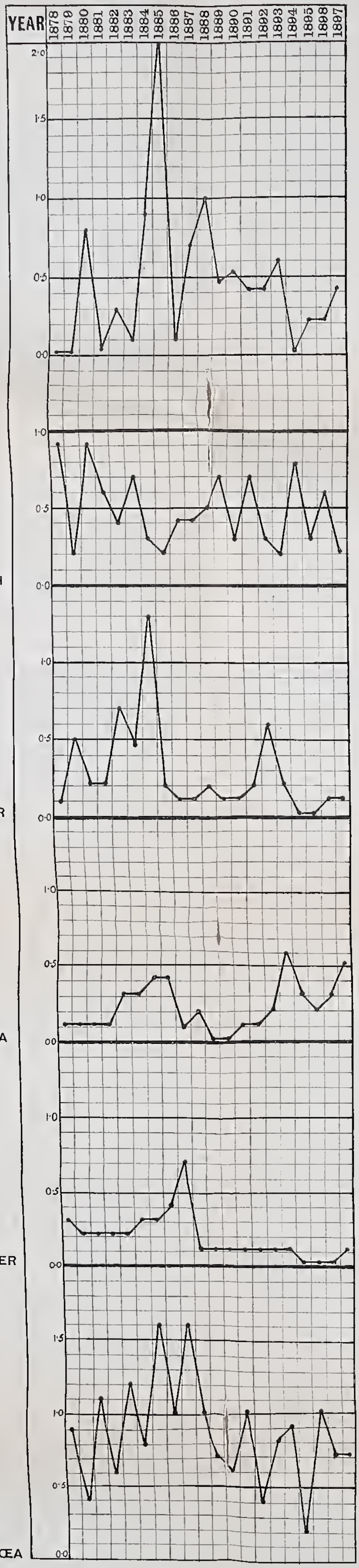
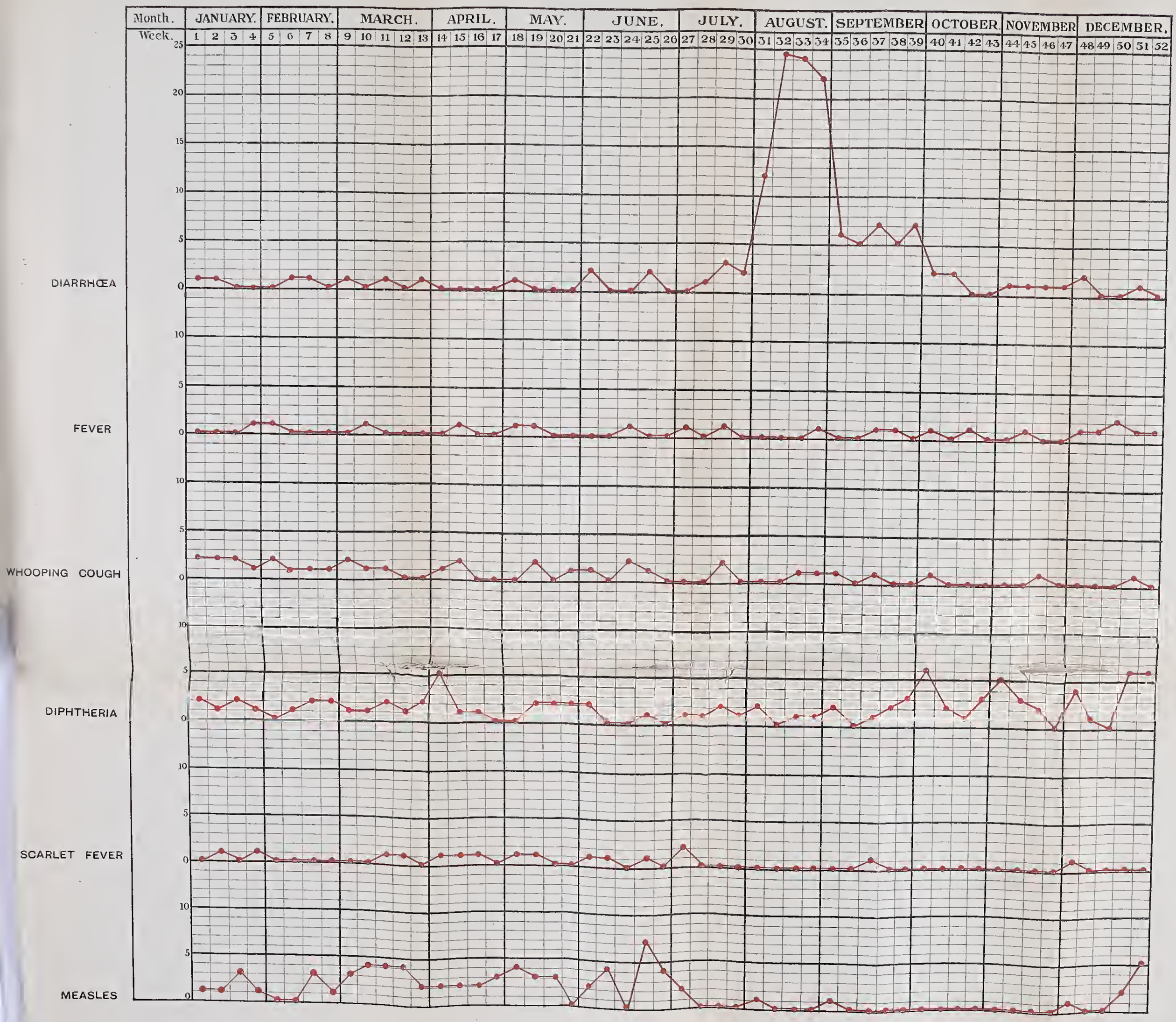



*Chart shewing the influence of temperature on the Diarrhœa death-rate in Cardiff, during the Summer quarters of the Years 1872—1897.*



*Deaths from Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever, and Diarrhœa, during the Year 1897.*



1897.

*Deaths from all Causes,*

*The Principal Zymotic Diseases and Diseases of the Respiratory Organs.*

